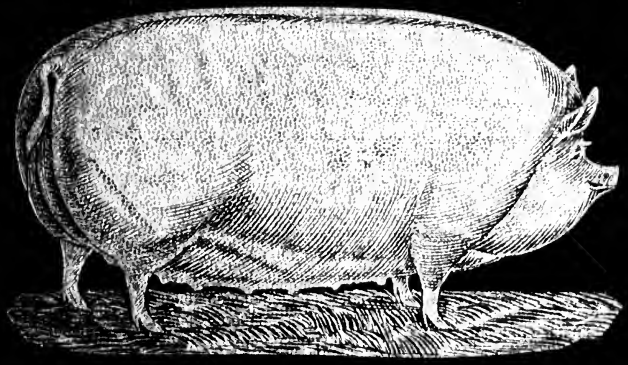
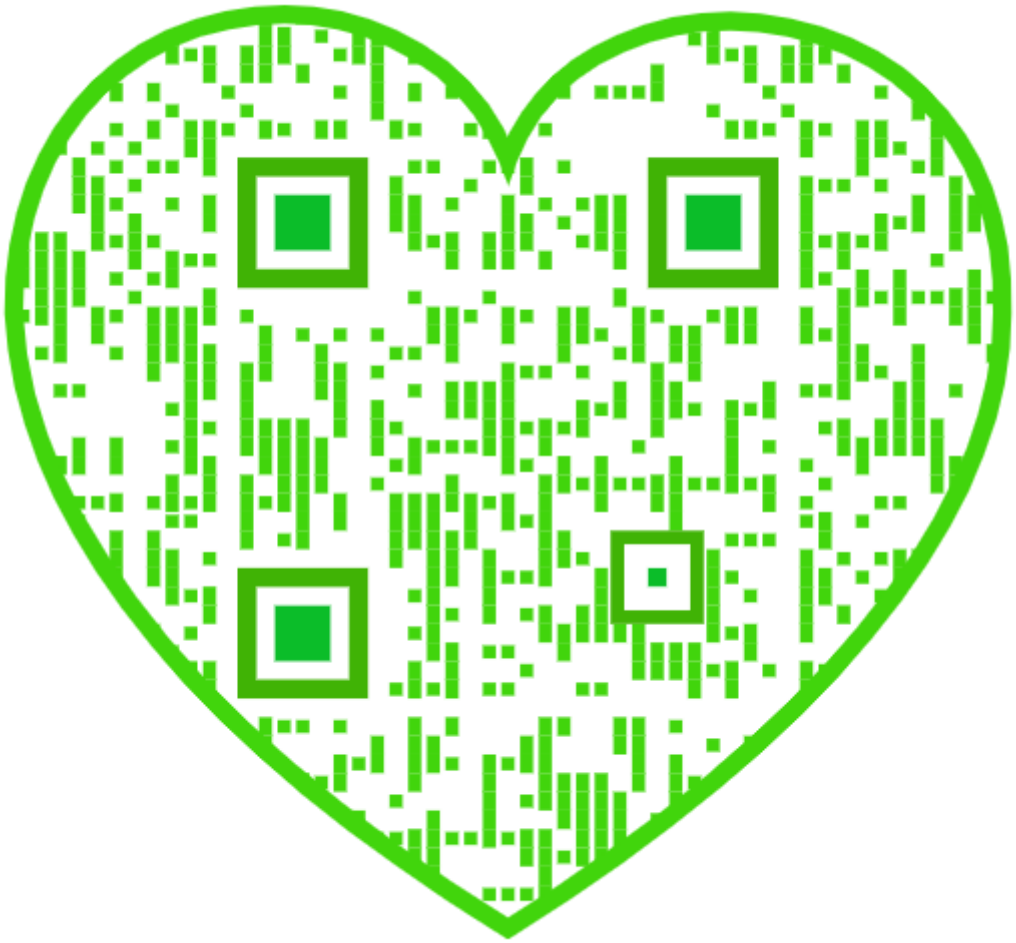


SF
973
.H8

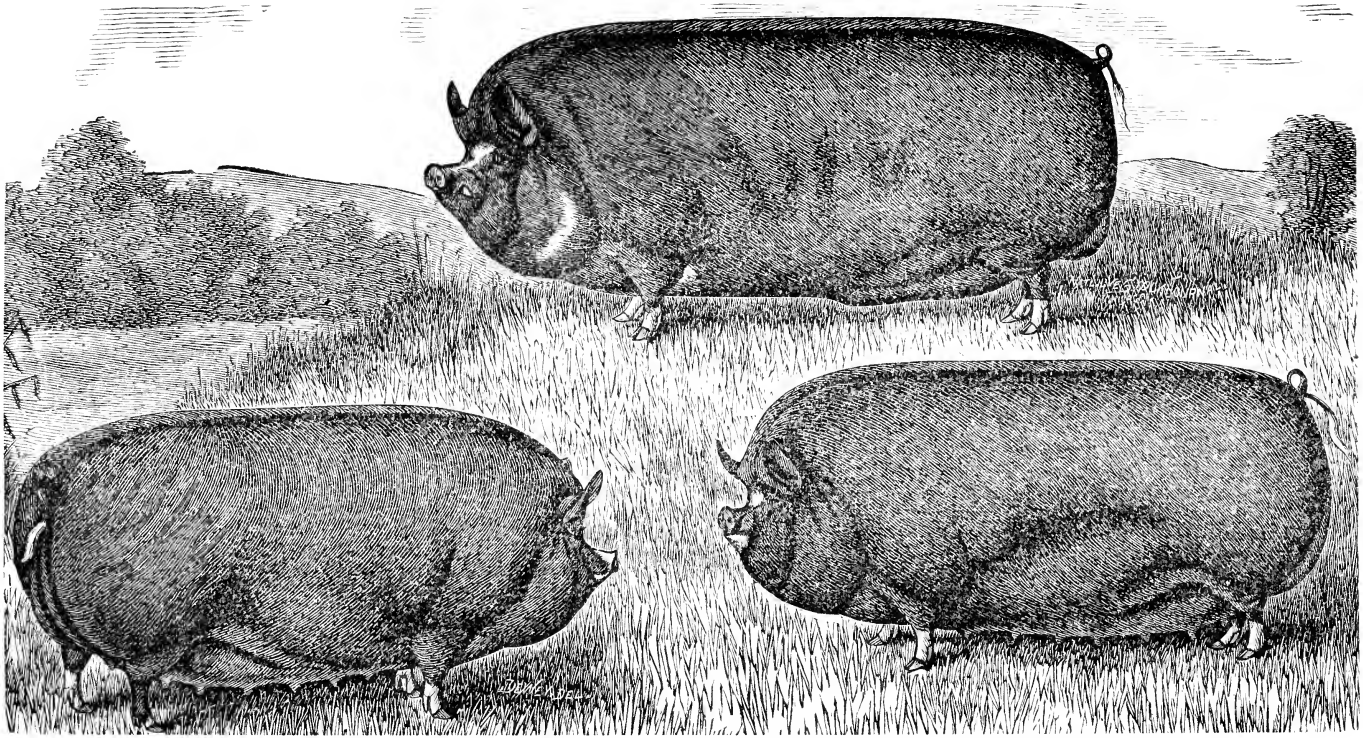


LIBRARY OF CONGRESS.

Chap. Copyright No.

Shelf. .H9

UNITED STATES OF AMERICA.



HEWER'S "PET," "ROYAL HOPEWELL," AND "CHERRY BLOSSOM."

BERKSHIRES. Imported and owned by HEWER BROS., Belvidere, Ills.

# A TREATISE

ON

# HOG CHOLERA

AND

# CHICKEN CHOLERA.

WHAT THEY ARE, THEIR CURE
AND PREVENTION.

---

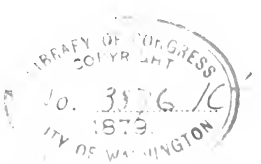
BREEDERS' DIRECTORY.

---

*By O. EVANS HORNIDY, M. D.*

---

10
4535




DAVENPORT, IOWA:
EGBERT, FIDLAR, & CHAMBERS, PRINTERS.
1870.

Entered according to act of Congress, in the year 1879, by
O. EVANS HORNIDY,
In the office of the Librarian of Congress, at Washington.

# TABLE OF CONTENTS.


| | PAGE. |
|---|---|
| HOG CHOLERA, | 7 |
| General Remarks, | 7 |
| Name of the Disease, | 9 |
| Symptoms, | 10 |
| *Post-mortem* Appearances, | 15 |
| Nature of the Disease, | 20 |
| Its Similarity to other Diseases of Animals, | 22 |
| General Causes, | 25 |
| Local Causes, | 27 |
| Worms, | 37 |
| Prevention, | 39 |
| Proper Food, | 40 |
| Treatment, | 42 |
| Reasons why the Disease should be Prevented, | 50 |
| Analysis of Various Kinds of Food, | 52 |
| How to Make Cheap Pork, | 55 |
| CHICKEN CHOLERA, | 57 |
| Cause, | 58 |
| Symptoms, | 60 |
| *Post-mortem* Appearances, | 61 |
| Preventives, | 62 |
| Food, | 63 |
| Treatment, | 64 |
| BREEDERS' DIRECTORY, | 69 |

# PREFACE.

symptoms of the disease, and a thorough study of remedies, could but result in giving us a cure. This the author has done; and he desires to urge upon those who use his remedies that they do so fully and thoroughly, observing at the same time the sanitary precautions given. This being done, a cure is assured.

THE AUTHOR.

# HOG CHOLERA.

## GENERAL REMARKS.

The disease to which the name of "Hog Cholera" has been generally but improperly applied, has prevailed more extensively in this country than most persons are aware of. The first appearance of the disease of which I have been able to find any notice, was in Kentucky, about the year 1852; it was then called quinsy. It prevailed in several localities in that State, and in some was quite fatal. About the year 1856 it first made its appearance in some localities in Southern Ohio, Indiana, and Illinois. I was

living in Southern Illinois when it first made its appearance in that portion of the State, and I well remember the consternation it produced among the hog raisers. It swept whole herds of hogs out of existence. It has continued to a greater or less extent since that time, in our Western and Southern States, in nearly all of which it has at some period attained the character of a fatal and wide-spread epizootic. Its victims in those States are numbered by the hundreds of thousands, if not by the millions. During the last fifteen years this disease has at times prevailed in some of the more Eastern States; as in Western New York it has been quite fatal in limited localities. But in the Eastern States it has originated with, and been confined to, hogs imported from the West. I think that in no State east of Ohio has the disease attained the character of a wide-spread epizootic. In the vicinity of Providence, Rhode Island, it has prevailed to some extent, but only in herds of hogs that have been shipped from the West.

It is evident that a subject of so great im-

portance to the agricultural interest of the community deserves attention. It is also interesting to all classes of the community, owing to its relation to the epidemic diseases that afflict the human family, and on account of its effects on the supply of animal food for cities.

For these reasons I have spent much time and labor in the last fifteen years. I have visited many localities in districts where the disease prevailed. I have examined the bodies of many hogs after death; have made inquiries of those who have had the care of hogs, in relation to the symptoms; and have obtained information as far as possible from those who have seen the disease in its worst forms. The result of these investigations of the subject I propose to give briefly in the following pages.

## NAME OF THE DISEASE.

The first question that arises in the minds of most persons is this: What is the disease? And the question is asked with a special desire to have it answered by a spe-

cial name. This cannot be done. There is no name which would convey — even to physicians, and certainly not to others — a precise idea of the disease.

## SYMPTOMS.

The symptoms, as described by persons unaccustomed to such observations, are extremely variable. By combining the information of others with the result of my own observations, the symptoms during life of the animals are as follows:

1. Refusal of food. This is the first symptom usually noticed by those who have care of the animals, though, as will be seen hereafter, this symptom by no means indicates the beginning of the disease. The refusal of food, after it is first noticed, usually continues through the whole sickness. Food of every kind is mostly refused.

2. Great thirst is usually constant, and large quantities of cold water are swallowed if it can be obtained, but not *always;* some animals even refuse to eat or drink.

3. After a time, the length of which varies very much, the animal begins to show signs of weakness, reels, staggers, and falls down.

4. In some cases there is a diarrhœa, with copious discharges of dark, bilious, and very offensive matter; in other cases the discharges are hard, black balls; in other cases there is no discharge whatever from the bowels. In some of these cases the offensive fluid is found in the small intestines after death, while the large intestines are empty.

5. In a few cases there is vomiting, but this is not often the case, nor does it continue for any length of time.

6. In other cases the animal is in apparently good health, eating his food, when he will throw his head up, turn round a few times very quick, squeal, and drop dead with his mouth full of food. Others will be in apparently good health, and will commence bleeding at the nostrils, and will bleed to death in a few hours.

7. In other cases the jaws will commence to enlarge, great knots or carbuncles will

form, causing the upper or lower jaw to turn up or down, or to one side; their ears will swell up very large and crack open, and sometimes slough off.

8. But the most common symptom at the present writing (1878), among the animals where the disease is prevailing, is a general lassitude; a drooping of the head and ears; the hair looks dead, is quite loose on the skin, easily plucked out; a drawing up of the back, falling in of the flank; a wasting away of the flesh; costiveness of the bowels; and in the last stages of the disease, a refusal to eat or drink.

10. The duration of the disease in fatal cases, after the first symptoms are noticed, is extremely variable. I have seen some that died in a few hours, and others that lived many days. It is difficult, however, to fix the time of the appearance of the first symptoms. The first noticed in many cases is the refusal of food, while others show symptoms and still eat; in fact, some die while eating, as has been stated. Such are the symptoms as obtained by observa-

tions in all the localities that I have visited. In corroboration of my observations, I give the observations of Dr. George Sutton, of Aurora, Dearborn county, Indiana. Dr. Sutton made extensive and careful observations of the disease as it prevailed in Indiana, and his article is of much value. His description of the disease is as follows:

"The hog appears weak, his head drops; and sometimes after these symptoms diarrhœa commences; there is frequent vomiting. In some cases the discharges were serous and clay-colored; sometimes very dark, also bloody and mucous, resembling those of dysentery. The urine was, at first, small and highly colored, but as the animal recovered it became abundant and clear. This was one of the symptoms by which the men who were attending them at the distillery ascertained that they were recovering. In a large number of cases the respiratory organs appeared to be principally affected, and there was coughing and wheezing and difficult respiration, and in some instances the animal lost the power of squealing; and the larynx

was diseased, there was frequently swelling of the tongue and bleeding at the nose. In cases where the respiratory organs were the seat of the disease, there was no diarrhœa or dysentery. In many instances the disease appeared to be confined to the skin; sometimes the nose or ear, or side of the head, were very much inflamed, the ear swollen to twice its usual thickness; this inflammation would spread along the skin, and sometimes over the eyes and produce complete blindness; sometimes one or more of the legs of the animal was inflamed or swollen, and the inflammation extended along the body. The skin where it was inflamed was red and swollen; some had large sores on their flanks or sides from three to six inches in diameter. In one instance at the distillery, the inflammation extended along the fore leg, the foot became ulcerated and sloughed off, and the animal recovered. Some appeared delirious, as if there was inflammation of the brain. Sudden changes in the weather, particularly from warm to cold, appeared to increase the fatality of the disease."

The symptoms, as described by Dr. Sutton, are somewhat similar to those I have already given; yet it seems his observations were made on hogs fed on still slops; and it is a fact well known among hog raisers, that hogs fed on still slops are more liable to take the disease than those fed on dry food, and it seems to be more fatal. But the descriptions already given are sufficient to enable any one to recognize the disease wherever it prevails. It will be noticed that there are a very great variety of symptoms described, and that they affect nearly every part of the animal. This would be expected from the nature of the disease, as will be seen hereafter.

## POST-MORTEM APPEARANCES.

Having described the symptoms as seen in the animal while living, I will now give, briefly, the appearance found on examination after death.

During the last year I have examined bodies of a large number of hogs that died with the disease. I have examined a great

many in the last thirteen years, but as I have found the symptoms much the same in the past, I will only give my last year's experience.

During last spring I examined the bodies of seven hogs, and here give the condition of the organs as I found them.

LUNGS. — In two cases the lungs were in a healthy condition; in the remaining five cases, one or both lungs were inflamed, having a liver-like appearance, called hepatization; in some cases the inflammation was more advanced, and the substance of the lungs was breaking down into a mass of disease. In some cases there were tubercles or consumption in the lungs.

STOMACH. — The stomach contained large quantities of small worms that would average from two to three inches in length. The stomach, in some cases, was distended with an offensive mixture of food, and in two cases the inner surface was ulcerated to some extent.

LARGE INTESTINES. — The inner coat of the large intestines was generally inflamed and

softened with ulceration to a greater or less extent, and in all cases more or less large worms were found, a great many with their heads protruding through the intestines. In some cases the intestines were entirely empty except the worms. In other cases they would be filled with a hard, black, tarry-looking substance, in balls, with the worms between them. On account of their diseased condition, their inner coat was frequently discolored.

KIDNEYS. — These organs, in all cases, were much paler and more yellow than natural; this condition was well marked.

LIVER. — The liver, in all cases, was more or less diseased, and, in some, small worms were found from one inch to two inches in length. I took from one liver five hundred of these worms. They were very slender, hard, and sharp at both ends.

BLADDER. — The bladder was usually found in a healthy condition. In some cases water was found in the cavity of the belly and chest, and in the membrane surrounding the heart.

I examined quite a number that died very

suddenly — apparently in good health a few minutes before they died — found but little diseased condition of organs as given above; but on examining the brain found it in a blood-shot condition, and some appearances of inflammation; could not tell what produced this condition, except it was *trichina*, as these were found in the membrane surrounding the brain.

I examined a few that bled to death at the nose. Their organs were somewhat more affected than those that died so suddenly; but on examination of the head and nostrils, I found them in a blood-shot condition; also found a great many small worms, from a half inch to an inch in length. These worms were, without doubt, the cause of the blood-letting.

My next examination was of the blood of those that died with the prevailing symptoms. Of those that died costive I found their blood in a most impoverished condition; and on examination with the microscope, found it a living mass of *trichina*.

Such are some of the most important

appearances which are found on examination of hogs that have died of this disease. It will be noticeable that four of the diseased conditions that I have described are prominent, important, and such as would be most readily recognized by the most ignorant observer: First, inflammation of the lungs; second, quantities of large worms found in the stomach and bowels; third, costive condition of the bowels; fourth, diarrhœa. One or more of these diseased conditions will be found in every case; and, perhaps, in a majority, three of them will be present in every animal that is diseased. Another and important symptom, not so noticeable to the novice, is the impoverished condition of the blood; this is the case in all those that have costive bowels. This symptom reveals itself in *post-mortem* examination.

Dr. Sutton, of Indiana, in the article from which I have already quoted, gives an interesting account of the *post-mortem* appearance in hogs dying from this disease; and it is evident from his article that he had the opportunity of examining the disease in its

most malignant forms. He mentions every diseased condition that I have described, except the impoverished condition of the blood. Why he should overlook this and its cause, I am unable to say. And, again, he says nothing about microscopic observation at all; but he certainly did not examine the head and nostrils, or he would have found those worms that I have described. If he had examined the flesh and blood with the microscope, he would have found the presence of the *trichina*.

With the description already given of symptoms and *post-mortem* appearances, most persons, without medical knowledge, will be able to recognize the disease. It remains for us to consider briefly its nature, causes, prevention, and treatment.

## NATURE OF THE DISEASE.

Sometimes in the human subject — particularly when portions of the body are undergoing inflammation and suppuration — pus and other diseased products are absorbed, and, entering into the circulation, poison the

blood, and produce the condition of the system known as *pyaemie*. In such cases the general poisoning of the system is shown by a low form of fever, great weakness, and prostration of the vital powers, frequently accompanied by vomiting and purging, and often resulting in pleurisy, with inflammation and deposit of matter in the lungs, superficial swellings and abscesses, inflammation and suppuration in the joints, and other diseased phenomena; so in severe forms of typhus or ship fever, and in malignant cases of some other diseases, when the whole system seems to be filled with a powerful poison, and utterly prostrated, the same or similar effects are seen. So, in this disease among hogs, there seems to be a general poisoning of the blood, producing local inflammation and ulcerations in various parts of the system, though more frequently in some parts than others.

This, then, is a general disease of the whole system, and probably its most prominent causes resulting from some poisoning of the blood; the inflammation of the lungs,

the superficial ulcers and swellings, and other effects I have described, are only the local effects, and are the results of the general disease.

The diarrhœa that exists in some cases, and on account of which the name of "Hog Cholera" has been given to the disease, is probably caused by the local inflammation of the intestines, and worms that are found present in them. The name "Hog Cholera" is, therefore, entirely improper, as it only represents one of the several prominent symptoms. The disease might as correctly, or incorrectly, be called "Pneumonia."

## ITS SIMILARITY TO OTHER DISEASES OF ANIMALS.

In this connection it is proper to notice the similarity that exists between this disease in swine and some epizootic diseases that prevail among cattle. The disease known as "Texas Cattle Fever" is one that has very similar symptoms to that of the disease of swine.

In 1873 I was in Missouri, on the line

of the M., K. & T. Railroad, when a great many Texas cattle were being shipped on that line. The native cattle along the line were dying, supposed to be the result of their coming in contact with the Texas cattle at feeding stations. I had the opportunity of examining quite a number that died. The symptoms in the first stages of the disease were very similar to that of the general symptoms in Hog Cholera — first a refusal to eat, stiffness of movement, drooping of the head, and in some cases diarrhœa, but in other cases costiveness. *Post-mortem* examination showed slight inflammation of the throat, acute inflammation of the stomach, with some ulceration of the coat; intestines somewhat inflamed, with a slimy appearance of the inner coat. The kidneys were much more pale and yellow than natural. The lungs seemed healthy, but the liver was very pale. I think this was owing to the fact that the blood was in a very impoverished condition.

Any one who reads this and other descriptions cannot fail to notice the striking simi-

larity between that disease among cattle and the disease among swine which we are now considering.

The same is true of the disease which has caused so much excitement in New England in the last few years, under the name of "Pleura-pneumonia." Its symptoms and *post-mortem* appearances, so far as described in the reports I have seen upon the subject, are very similar to those observed in the disease among hogs which I have examined.

The conclusion at which I have arrived is, that the "Hog Cholera" which I have described, and the "Pleura-pneumonia" of New England, and "Texas Cattle Fever," are similar diseases, having the same general features, producing similar diseased changes in the body, and are the results of similar causes. If a definite name is required, let us call it "*Murrain*," which is derived from a Greek word which means to *waste* or *weaken*.

## GENERAL CAUSES.

In this and other similar diseases among animals, as well as in epidemic diseases in the human race, the universal tendency of the human mind is to ascribe their propagation to contagion. Dr. Sutton says: "Although this disease must occasionally have a spontaneous origin, yet, when once produced, will spread rapidly by contagion."

It is comparatively but a few years since the belief was universal that yellow fever and cholera were contagious, and the most oppressive quarantine restrictions, based upon this belief, were enforced, to prevent these diseases, in every port of the civilized world. But the enlightened opinions of the medical profession and sanitarians of the present day have decided that yellow fever is not contagious; while the idea that cholera is contagious is abandoned, so far as I know, by all intelligent physicians at the present time.

So, I firmly believe, it will soon be with reference to this and other similar diseases of animals. They are not contagious, and

the belief that they are is productive of great injury in the adoption of measures for their prevention. But this disease among swine is an epizootic disease, as much as cholera or yellow fever is an epidemic in the human family.

If, then, this be an epizootic disease, its causes are similar to that of other epidemics. The following, then, as I understand the subject, *are the causes,* not only of this disease among swine, but also of the disease among cattle referred to, as well as of epidemics in the human race, viz:

1. *An epidemic, atmospherical poison.*

2. The local condition adapted to receive and propagate the poison existing in the atmosphere.

With regard to the first cause, very little is known. It may be an animal or vegetable existence, or a chemical or electrical change in the atmosphere. Nor is anything known of the differences in the condition of the atmosphere by which such dissimilar epidemic and epizootic diseases are produced at different times. But, judging from their

effects, I conclude that these primary causes of epidemics probably exist in the atmosphere; that they progress over a greater or less extent of country, in accordance with laws with which we are not acquainted, and, alighting upon the earth, produce their effects wherever they find the local condition adapted to their propagation.

## LOCAL CAUSES.

The *local conditions*, or causes, of this disease among swine, are not so obvious, or so well understood, as they should be. A partial cause of its malignant character is, no doubt, owing to the impure air arising from the filth with which the animals are surrounded; the location, and want of ventilation of the pens in which the animals are kept; the use of improper food, and the want of pure water. Common sense teaches that cleanliness, good food, pure air, and pure water are as important to prevent disease among animals as in the human family, though the fact is generally ignored by those who have care of these ani-

mals. But there is another condition, not essential to produce the disease, but which has much to do with it — that is, the crowding of a large number of animals together. It is a well established fact that the severity and fatality of cholera and other epidemic diseases in the human family is in direct proportion to the density of the population.

The co-existence of both the causes given — viz, the atmospheric poison and the local conditions — are necessary, to some extent, for the extensive development of the disease. When both of these causes are present in any locality, and healthy animals are brought into it, a portion of them, if not all, will contract the disease. But this important fact is to be remembered: That both these causes may be present in a locality whether the animals are present or not.

Perhaps I have said more than some may think necessary in relation to the cause of the disease, but the subject is of the utmost importance in its relation to preventive measures. If this and other similar diseases are not contagious, but arise from causes

which may or do originate wholly and independently of the presence of animals, it is manifestly absurd to attempt, as some have done in some cases, to prevent and eradicate them by the destruction of the animals. You might, with the same propriety, put an end to the epidemics that prevail in overcrowded cities by destroying the inhabitants. Yet it is well understood that proper sanitary precautions will make the epidemic less fatal.

I have given in the last few pages the common acceptation of the cause of the diseases of swine, the pathological and *post-mortem* appearances, although I have not arrived at any definite results; and, much as I believe that the disease is brought about by atmospheric influences, impure air arising from filth, location, want of healthy food and pure water, there are some other important matters to look after in this connection:

1. The breeding of the animal.
2. Food for breeders.
3. Pasturage, or range.

4. The practice of cutting or ringing of the nose.

5. Trichinæ.

Breeding. — In the last fifteen years much importance has been attached to the breeding of swine; and one of the grand objects to be attained is to get to market hogs of the greatest weight with the least feed and age. This is very commendable, but in doing it the hog-raisers have lost sight of some very important facts: First, keeping on their places too long the same breed, thus breeding in and in the same blood, reducing the constitution by consanguinity. Comparative anotomy teaches that the hog is nearer like a man than any other animal; and it is well understood by anatomists and physiologists that intermarriages of cousins produce enfeebled minds and weakened constitutions. And I am under the impression that its effects on swine are somewhat similar; yet its direct influence may be to give them a feeble constitution, requiring more care and better treatment. It does not interfere with a quick growth or the fattening process, but weakens their power to

throw off disease. My own experience in breeding is that where I changed or crossed my stock often the disease did not prove so fatal, and yielded more readily to treatment.

Food for Breeders. — This is a matter of much importance. In order to have strong, healthy pigs, they should not be fed corn in any shape, from the fact that it does not produce muscular strength, or strong, healthy stomachs and intestines. Where this article of food is used exclusively, these organs are very tender and fatty. The greatest value that corn has is to produce fat — it probably excels all other food for swine in this respect.

If you want a good, strong, well-muscled, and solid-boned hog, never feed corn until you want to feed for market. Never feed your breeders corn, either male or female. Every farmer should be his own judge of the time he wants his pigs to come, but the best time to change them is as soon as they can get to them.

Another important matter in breeding is to have well ventilated brood rooms — not

a low-roofed affair, nor a small pen, that the sow can just turn round in; but give her plenty of room, and at least enough above her head so that you can walk in without knocking your hat off.

RANGE OF PASTURE. — Twenty-five years ago the farmers in the Western States had a large range of pasture for their stock; such a disease as hog cholera was not known. They allowed their hogs to run at large on the commons. The grade was very inferior to the present grades, although much hardier. It was a common thing among hog-raisers to let their hogs run on the range throughout the whole year. They fed but little corn, except in the fattening season. It was not then, as now, a market any time of year. So, when I take in consideration the healthy condition of swine at that period, their feed and care, I can arrive at but one conclusion — that is, their healthy and hardy condition was owing to their food and range of pasture. It is very probable that if the farmers of twenty-five years ago could have had the fine stock of hogs of the

present day, they would have taken more care of them than they did of the stock they had then, yet the result might have been the same to some extent — that is, provided the food and pasturage had nothing to do with their healthy condition, but no doubt it had much to do with it. The hog, like all other animals, is naturally his own "*doctor;*" allow him the freedom of his will, and when he gets sick he will root and procure his own remedies. But this is out of the question now in most of the hog-growing districts, from the fact that the range of pasture that the farmer of twenty-five years ago had are now cultivated fields, and the remedies that swine would procure when sick are exhausted; so they have become dependent on their masters not only for food and shelter, but, when sick, for medical treatment. I can remember when it was thought healthy for hogs to have a mud-hole to wallow in in hot weather; and a farmer was considered lucky if he had running water or a pond on his farm that his hogs could run to at will. But with the present breeds of swine, with

their weakened constitutions and constant exposure to atmospheric poisonous influences, it is neither prudent nor safe to allow such habits.

The hog is not naturally a filthy animal unless you rear him as such. With the weak constitution he possesses now, cleanliness is necessary to keep him in a healthy condition. It is an old saying, and a true one, "that filth breeds disease." So the pasturage, food, and general care has much to do with the animal's health. I do not think these things have everything to do with propagating the disease, but have much to do with its malignancy and fatality — just as much so as crowded cities, with filthy streets and bad sewerage, has to do with the malignant forms and fatal results of epidemics in the human family. The reader should not lose sight of the fact that swine are, according to comparative anatomy, more nearly related to the human family than any other animal.

CUTTING AND RINGING THE NOSE. — All know that it is the nature of the hog to root, and the practice of cutting or ring-

ing the nose makes him much more dependent on his master for support, and it has a direct tendency to make the disease more malignant, as well as to prevent his procuring his own treatment by rooting. If you have to mutilate the animal's nose, do not do it during the months of July, August, or September, nor at any time when the disease is prevailing in your neighborhood. If you do, the wounds will not heal up. I noticed during the last fall a large number of herds of hogs that had the ring put in their noses in July, yet in October had not healed up, and the disease was more malignant in its character upon such herds.

TRICHINÆ.— I am aware that in presenting these as a normal condition of swine, I will have to contend with many conflicting theories and speculative ideas. But as I do not wish to lengthen out this little work with quotations of these theories and ideas of others, I will simply give my own.

I hold that trichinæ are natural to swine, and all have them to a greater or less extent; that they increase or propagate ac-

cording to surrounding influences. If the influences are healthy, the trichinæ remain in a dormant or encysted condition. But the causes above enumerated will bring them into active life, and cause their increase to that extent that the lean portion of the body and the blood will become a living mass. What this has to do with the fatality of the disease, I leave every one to judge for himself.

I have examined the bodies of hogs in every stage of health with the microscope, and never failed to find trichinæ present—always in the throat, and, in the first stages of the disease, along the tenderloin next the spine; in more advanced stages, in the blood. In all the pathological theories that I have ever read, not one has given us any information regarding the presence of trichinæ in the hog being one prominent cause of the fatality of the disease, yet all acknowledge their presence to some extent. Nor do I, in this treatise, design giving their exact relation to the disease. Their tendency, without doubt, is to impoverish the blood, and

weaken the spine, thus producing an inactive condition of the whole body, and hastening death.

## WORMS.

These are, as has been already stated, found in the head, stomach, bowels, liver, and sometimes in the flesh. They present themselves in the different organs in different sizes. Those found in the large intestines, sometimes quite numerous, are large—from six to fifteen inches in length; in the small intestines, not so large, but from three to six inches. Those found in the nostrils are small, from one to two inches. Those found in the liver are much the same as those found in the head.

I have no doubt but these worms have much to do with the fatality of the disease under consideration. They are there, I know; and, as the disease advances, they increase very rapidly.

Those in the large intestines, no doubt, produce that inflamed and ulcerated condition found after death; those in the small intestines have a similar effect, while those

in the stomach and liver would produce indigestion and torpidity, and the tendency might be constipation or diarrhœa, owing to the condition of the food in the stomach and intestines; while those of the head and nostrils have other tendencies. Those of the nostrils, probably, in their migratory course tap blood vessels, and thus hasten death by blood-letting; while others, nearer the brain, tap that organ, and produce very sudden death.

I have, in as brief a manner as possible, presented the various causes and symptoms of this disease among swine, and some of the ideas may be somewhat speculative; but I am conscious of one fact: If they are, I am not the first in the field, for I find already stated many conflicting theories, and some very speculative ones. And, as has already been said, as it is not the intention to speculate, nor discuss the theories or speculations of others, I will proceed to give what I understand to be the course that hog-raisers should pursue to prevent the fatality of the disease among their swine.

I do not hold that the disease can be entirely prevented, but I do hold that, with proper sanitary precautions and treatment, the duration of the disease can be lessened, and the fatality diminished.

## PREVENTION.

Bearing in mind the causes of the disease as I have given them, the measures necessary for prevention are obvious, and may be stated in a very few words: First, remove as far as possible the local causes. The general causes, existing in the atmosphere, cannot be reached; nor can they be avoided, except by the removal of the animals beyond the limits of the influences indicated above. This is not usually practicable, but the local causes can to a very great extent be removed, and, without these, the general causes cannot produce any serious results.

The first thing necessary is to procure a more hardy animal. Keep the animals from mud and impure water, especially during the hot season. Keep them on as elevated

grounds as possible on your place. They can be separated and isolated in lots as far apart as possible. They can be allowed an abundance of pure air, and pure, cold water. They should be supplied with nourishing food.

## PROPER FOOD.

The matter of food is one that I wish to impress on the mind of the swine-grower, for this has much to do with promoting the health, and giving a strong, hardy constitution to swine.

I have already stated that stock hogs should not be fed corn; and the question comes very readily from the farmer — "What shall we feed?" So it is proposed to give a chapter on the best food for stock hogs.

The soil of the Western States is well adapted to the growth of all kinds of vegetable roots. Among the most valuable for feeding young swine is the artichoke, and which is probably the most prolific. It will yield from three hundred to five hundred bushels per acre; in some districts in Illi-

nois eight hundred bushels per acre have been gathered. They will grow in fence corners, waste lots, or any place you have a mind to plant them. The next in value are carrots. They will yield from two hundred to three hundred bushels per acre. Plant in rows, from eighteen inches to two feet apart. Turnips and potatoes are excellent food for young swine. These vegetables are far cheaper to feed than grain of any kind, and much more healthy. They will not produce fat so fast, but a better growth of muscle and bone, and then they have a tendency to strengthen the system and throw off disease. If you must feed grain, feed oats, rye, or barley.

Another important matter to be considered in this connection, is the sanitary arrangements to be observed.

Do not let your hogs run to or sleep in rotten straw or manure. Burn up all your cobs or trash in your hog lots; sprinkle salt upon the ashes, and your hogs will eat them all up. Burn up all their bedding at least four or five times a year. Keep your pens

clean; and at least once a week sprinkle fresh slacked lime in the pens, beds, and feed-lots.

Stock hogs should have at least one ounce of good salt every other day, throughout the year, per head; feeders, two ounces each three times per week. The salt not only gives strength to the muscle, but makes good, solid bone, and recent experience teaches that where swine have salt at regular periods throughout the year, they will weigh from forty to sixty pounds more than those that have it at irregular times.

If the above sanitary treatment and rules are observed, when the cholera makes its appearance it will be of a mild form, and will readily yield to treatment.

## TREATMENT.

There is probably no disease in the United States that has prevailed in the human family, or among animals, that has had as wide range of treatment as hog cholera, and with as little success. The whole country where the disease prevails is overrun with "hog

doctors," who offer all sorts of compounds and patent nostrums; and many of the farmers have become so disgusted with their failures that, rather than try anything new, they will let their hogs die. These vendors of quack nostrums are usually men who know but little about the hog or his diseases, or the chemical effects of their own compounds—their compatibilities or incompatibilities. I give below one of the many formulas that have been placed in my hands. It is a fair average of many more given me. The farmer who gave me this said to me very confidentially, "I paid ten dollars for this and got it filled, and gave it to my hogs that were sick, and they all died:"

1 lb Sulphur;
1 lb Saltpetre;
½ lb Gunpowder;
½ lb Rosin;
1 lb Copperas;
1 lb Charcoal;
½ lb Black Antimony.

This was to be well mixed and given in doses from one teaspoonful to a tablespoon-

ful, according to the size of the hog. This is simply given to show what ignorance is displayed in compounding remedies without any respect to their chemical agencies.

Edwin M. Snow, of Providence, R. I., in a lengthy article on the disease, its preventives and treatment, says, at the close of his valuable paper: "In the treatment of a disease of this character, we have little to expect from the specific or direct action of medicine of any kind. The most that we can hope to do is to support the system so as to enable nature to overcome the disease. This, faithfully done, would be the most important step towards recovery."

I agree with the Doctor in regard to supporting the system with all sanitary measures practicable. But as I believe in specific agencies, to some extent, I know that there are agents that have a specific effect in controlling the disease under consideration, although there are many symptoms to meet in the treatment of the various phases of the disease; yet the indications to be met are not so numerous as one would suppose.

After the necessary sanitary precautions have been observed, as laid down in this work, you can use the following treatment with perfect success:

First, separate the sick hogs in as small numbers as convenient: put them in good, clean pens, with plenty of fresh slacked lime sprinkled in them: then give them the following preparation — to full-grown hogs, one teaspoonful to each one twice per day: pigs, one-half the amount:

℞

1½ ℔ Chlorate of Potash (pure):
1 ℔ Sub-carbonate of Iron:
1 ℔ May-Apple Root (powdered):
1 ℔ Prussian Blue:
1 ℔ Worm Seed (powdered):
12 oz. Arsenious Acid (pure).

This should all be well powdered, and well mixed.

The above compound will meet the following indications in the disease:

The Iron is a tonic and stimulant to the blood, and increases its red corpuscles: also acts as a febrifuge to allay the fever.

The Chlorate of Potassium is used to allay any general or local inflammation present; and perhaps there is not another remedial agent that has so powerful an influence over the disease as this.

May-Apple Root we simply use for its cathartic, cologogue, and alterative properties.

Prussian Blue, or Prussiate of Iron, is used for its anti-periodic and tonic effects.

Worm Seed is used as a worm destroyer in the stomach and bowels.

Arsenious Acid assimilates with the irons and is carried to all parts of the body, destroying the trichinæ and small flesh worms. It is also a powerful alterative.

The above treatment will meet all the indications in the disease except diarrhœa; where that is present, give to each hog one-half teaspoonful of powdered alum, once per day, until the bowels check up, in connection with the above treatment.

The treatment should be varied according to the season of the year. During the summer months, when the lungs are not much affected, you can use fresh slacked lime by

getting them in close quarters and dusting it in among them, causing them to breathe it freely, but it should not be used when the lungs or nostrils are badly affected, as it has a tendency to irritate them.

As soon as you see that your hogs are the least bit affected, if you are feeding corn, take it away from them; give them nothing to eat but boiled vegetables, if you have them; if not, boiled oats, rye, or barley.

The best way to feed the medicine is to make troughs with six-inch boards, strew the food along in the trough, then sprinkle the medicine along on top, and cover with more food. Feed the medicine at least twice per day for three days, then once per day until your hogs are well. To use as a preventative when cholera is prevailing in the country, first comply with our sanitary treatment, then give the medicine three times per week.

The treatment, as given above, is one that I have practiced for a number of years with remarkable success; and I am satisfied that all who will follow it will save their hogs. But the important fact to be remembered is,

that it is to the interest of the owner of these animals to use every possible means *to prevent the disease, as prevention is of infinitely more importance to him than treatment;* but if the disease becomes established, it should be treated in a rational manner, not forgetting that nature, when properly aided, will do as much to cure as medicine, if not more.

I do not wish to lengthen out this little work with superfluities, with this opinion or that, as given by other parties. I know that there is much being said at the present time. Government has taken up the matter. Congressional appropriations have been made to investigate the disease. The Commissioner of Agriculture has appointed a board of examiners, and they are already in the field at work; but what they will do in the two months that are allotted to them to investigate the causes of the disease, I cannot tell, but it is to be hoped that their efforts may prove successful in bringing to light some new features in the case that will be beneficial to the public. But when I take into consideration my own experience in the

matter, I cannot think they will be able to come to any other conclusion with regard to the causes of the disease than those given in this little work. As regards the treatment, any board of scientific men that the Commissioner may appoint to concur in a treatment for the disease, that treatment must be of the same nature and character of my own. They may adopt other agents, but they will have to meet the same indications.

Before I close, I wish to caution all those who may use my treatment, to be sure, in buying drugs, that they get a chemically pure article. Tell your druggist, if he has not got good drugs of full strength, to send and get them for you.

Another matter that I overlooked in the proper place: It is a common practice among the farmers to feed coal slack to their hogs. This will do, if you can get it clear of slate, as the hard slate has a tendency to irritate the stomach. There is nothing in the slack that does the hog good except the copperas and sulphur, and it is

much better to give these articles in food without the slack.

Charcoal is an excellent promoter of digestion, and a good appetizer; you can feed all you have a mind to.

## REASONS WHY THE DISEASE IN SWINE SHOULD BE PREVENTED.

In the first place, it is a well established fact that, in all the hog-growing States, the raising of hogs is the best source of money-making; and the loss of hogs by cholera, in the last few years, has crippled more farmers financially than any other misfortune. It is estimated that Illinois, alone, last year, lost $2,000,000 worth of hogs by cholera; and it is probable that the loss this year will reach $3,000,000.

In the second place, it is very unhealthy to have dead hogs laying around all over the country, decaying, and filling the atmosphere with an obnoxious stench.

Last, but not the least, is to have good, healthy hogs to send to market; for, when we take into consideration the fact that

thousands of hogs are shipped daily to market half dead with the cholera, hurried into the slaughter-pens, killed, salted, packed, smoked, and sent to all parts of the country to be consumed by the pork-eater—much of it a living mass of trichinæ and other results of the disease—it is, in all probability, the cause of one-half of the ailments of the pork-eater, that defy the skill of the best physicians. Then it is time that this matter was looked after in all its bearings, and either stop the consumption of pork, or produce healthy hogs to make it.

We are glad that the Government is waking up to an interest in the matter, and hope that something may be done to give us relief.

## ANALYSIS

OF COMPOSITION OF VARIOUS KINDS OF FOOD, SHOWING THEIR RELATIVE VALUES FOR STOCK.

| | Water. | Albumen. | Starch. | Sugar. | Fat. | Salts. |
|---|---|---|---|---|---|---|
| Wheat, | 15 | 10.8 | 66.3 | 4.2 | 2.0 | 1.7 |
| Barley, | 15 | 6.3 | 6.4 | 4.9 | 2.4 | 2.0 |
| Oats, | 15 | 12.6 | 58.4 | 5.4 | 5.6 | 3.0 |
| Rye, | 15 | 8.0 | 69.5 | 3.7 | 2.0 | 1.8 |
| Corn, | 14 | 11.1 | 64.7 | 0.4 | 8.1 | 1.7 |
| Potatoes, | 75 | 2.1 | 18.8 | 3.2 | 0.2 | 0.7 |
| Parsnips, | 82 | 1.1 | 9.6 | 5.8 | 0.5 | 1.0 |
| Turnips, | 91 | 1.2 | 5.1 | 2.1 | 0.0 | 0.6 |
| Peas, | 15 | 23.0 | 55.4 | 2.0 | 2.1 | 2.5 |
| Artichokes, | 70 | 2.6 | 17.7 | 10.7 | 0.7 | 1.3 |
| Mangel-Wurzel, | 80 | 1.2 | 10.1 | 7.1 | 0.6 | 1.0 |
| Carrots, | 83 | 1.3 | 8.4 | 6.1 | 0.1 | 1.1 |

The above table has been prepared with great care, and shows what kind of food contains the most nutritive matter for sustaining animal life. It will be seen by the table that some articles of food contain more material for fat than others; while others are adapted to building up the bone, muscle, and other constitutional parts of the animal. It will be noticed that corn contains more fat than any other food, yet its constitutional strength is lost in its lack of sugar, salts,

and albumen; consequently, an animal fed upon it exclusively, will have a weak, fatty muscle, with an open, porous bone, tender, fatty stomach and intestines, and will readily become a victim to any epizootic influences that may be carried to him in the atmosphere.

The pea contains more nutritive matter for bone and muscle than any other food, and excels all others except corn and oats in fatty matter. Although in this country the crop is not a profitable one, owing to the labor required to produce them, yet we would advise breeders of choice swine to feed them in preference to any other food, if they want a good, strong constitutioned hog — one that will not be subject to disease.

The next article of food for swine, especially in point of value, is the artichoke. From the large amount of sugar it contains, with its starch and salts, it is easily converted into material to supply the bone and muscular systems. Every farmer ought to have a few acres for his hogs. They can be raised for one cent a bushel. In theoretical value, they are worth for stock one-fifth of

corn; practically, they are worth from one-third to one-half. Hogs can be turned into the artichoke field about the middle of September, and will do well until the ground freezes solid. They can be turned in again in the Spring, as soon as the frost is out a few inches, and can remain until the first of May. Not only the cheapness of the artichoke, but the time of year they can be fed, should be considered in estimating their practical value. As soon as the hogs are turned out, it would be well to give the ground a good coat of manure, and a thorough plowing; but they will do well without either. Plant two bushels of seed to the acre.

Mangel-Wurzel is a root in very high favor among English stock-raisers, on account of the immense yield — sometimes over forty tons per acre — the ease with which it is gathered and stored, and the relish with which all kinds of stock devour it. It possesses about two-fifths of the nutritive value of artichokes, is easily touched with frost, requires very rich soil and considerable labor

in cultivation. Five pounds of seed is sufficient for an acre.

Carrots are a very excellent food for young stock of any kind; from the amount of sugar they contain, with their salts, are well calculated to give a vigorous and healthy constitution. They should be planted in rows, from two and a half to three feet apart, in a deep, loamy soil, and cultivated like corn. Three pounds of seed will plant an acre.

As regards the balance of our table, their principal values as food are pretty well understood by stock-breeders.

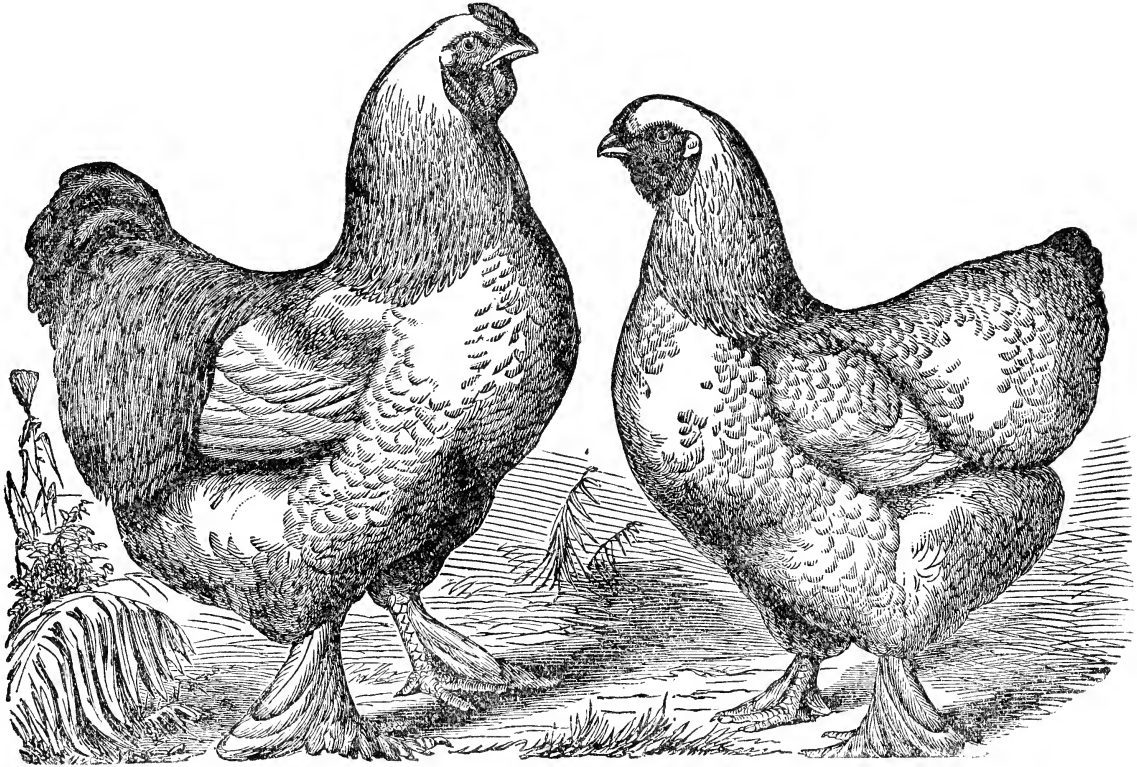
## HOW TO MAKE CHEAP PORK.

For seventy-five hogs, you want twenty-five acres of land, divided as follows: The first five acres put in blue grass, the second five in clover, ten in oats and peas in Spring and rye in Fall, and the fifth five acres in artichokes.

Have one movable fence across the field. As soon as the ground is thawed on top in the Spring, let your hogs in on the arti-

chokes. About the first of May take them off the artichokes, and keep them on blue grass till the first of June. Then turn them on clover until your oats and peas are ready, and about the first of October turn back on artichokes, and keep on until the ground freezes solid. In the meantime you can dig a thousand or two bushels, and put into the cellar for winter feeding. Your rye will make good pasturage in the Fall for young stock.

If this course is pursued, you can make pork for three cents per pound; and if you will carry out the sanitary handling of swine as given in this work, with the above course of feeding, you will forever banish that dreaded calamity — *Hog Cholera* — from your farms.



# CHICKEN CHOLERA.

This disease among poultry is probably as little understood as that of cholera among swine, and made its appearance about the same time in this country, and has prevailed in all sections of the country where cholera has been amongst hogs. But the most remarkable feature of the disease is, that it very rarely occurs on a place at the same time, but either precedes or immediately follows it. I remarked for a number of years that, if I had the chicken cholera on my place in the Spring, I was sure to have the hog cholera in the Summer or Fall, or *vice versa.* That there is a similarity in the diseases, no one who has investigated will

deny. But the organism is so dissimilar that the different phases of the disease that present themselves in the hog are not found in the fowl, although it is quite as fatal among fowls as swine, often destroying whole flocks.

CAUSE.— It is thought by some that the importation of fine breeds into this country has had much to do towards bringing on the disease. This may have something to do with its fatality, from the fact that the different breeds that have been imported have not the hardy constitutions of the "old dung-hill" breed of twenty-five years ago. But the fact that twenty-five or thirty years ago we had no chicken cholera in this country, is not proof that the disease of the present day is the result of changing the breeds any more than the importation and changing of the breeds of swine have to do with the production of hog cholera. And yet, no doubt, these changes have something to do with its fatality. Another great cause of its fatality is unhealthy food, stale water, and filthy hen-houses. It is just as necessary to

the health of fowls to breathe a healthy, pure atmosphere, as it is to the human family, and cleanliness and disinfectants are just as necessary to procure pure air. Yet all these precautions will not prevent the disease from attacking your flocks. But you may, with proper sanitary measures and disinfecting agencies, reduce the malignancy of the disease, so that it will readily yield to proper treatment.

For the general causes of this disease we quote from that given as the general causes of hog cholera:

"1. An epidemic or epizootic atmospherical poison.

"2. The local condition adapted to receive and propagate the poison existing in the atmosphere.

"With regard to the first cause, very little is known. It may be an animal or vegetable existence, or a chemical or electrical change in the atmosphere. Nor is anything known of the differences in the condition of the atmosphere by which such dissimilar epidemic or epizootic diseases are produced at differ-

ent times. But, judging from their effects, I conclude that these primary causes of epidemics exist in the atmosphere; that they spread over a greater or less extent of country, in accordance with laws with which we are not acquainted, and, alighting upon the earth, produce their effects wherever they find the local condition adapted to their propagation.

"Then the co-existence of both the causes given — viz, the atmospherical poison and the local conditions — are necessary for the extensive development of the disease. When both these causes are present in any locality, and healthy animals are brought into that locality, a portion of them, and sometimes all will, contract the disease. But this important fact is to be remembered, that both these causes may exist in a locality, whether any animals are present or not."

## SYMPTOMS.

The first symptoms noticeable in this disease of fowls, is a sleepy, languishing look, with the head drawn down to the body, the

feathers ruffled, comb pale, eyes weak and half closed, a constant thirst, and usually, but not always, diarrhœa. In the first stages of the disease a small amount of food is taken into the craw, but in the last stage the fowl refuses to eat. The duration of the disease varies very much; sometimes the fowls living but a few hours, while others live many days. But few recover without treatment.

## POST-MORTEM APPEARANCES.

In most cases, after death, the flesh has a bluish color. The small intestines are either empty or filled with an offensive fluid, with a soft and spongy condition of the inner coat, with a much darker color than natural, showing the presence of inflammation in death.

The Liver. — This organ, after death, is found much paler than natural, and is very flabby and soft.

The Craw — Is usually empty, with a slimy condition of the inner coat.

The Gizzard. — This organ, answering the

purpose of larger intestines in hogs, is usually full of hard, indigested food, with a very offensive smell.

## PREVENTIVES.

To prevent a malignant type of the disease, you should have good, warm hen-houses in the Winter, well ventilated at the top. In the Summer fowls should roost in the open air. Keep good, pure water handy for them to run to at will. The best plan is to have a good-sized trough near your well; take a pound of assafœtida, put it in two or three places in the bottom of the trough, nail leather over it, and keep it full of water for your fowls to drink. Keep your brood and setting-houses clean, and once per week sprinkle carbolic acid around in them; and once per month use fresh slacked lime all around your chicken yards and in the brood and laying-houses. These things are excellent disinfectants, and have a tendency to destroy the animal or vegetable poison that may be in the atmosphere.

## FOOD.

This is a more important matter in the Winter than Summer; as fowls in the Summer procure their own food, especially on farms. In Winter, feed any kind of grain, but remember fowls must have gravel or coarse sand to run to any time of the year, as these articles are as necessary to aid digestion in the fowl as is gastric juice to the human stomach; thus it is necessary, in a Northern climate, to provide these things handy for their use in Winter.

Give at least once per week, throughout the year, to each dozen fowls, one teaspoonful of Cayenne pepper, in any kind of food handy, as this has a tendency to stimulate the system and aid digestion.

Hens with their broods should be fed nothing but cooked food until the chickens are weaned. A small amount of Cayenne pepper should be given in their food every day.

## TREATMENT.

The important fact to be remembered is, that it is for the interest of the owner of fowls to use every possible means to prevent the disease from assuming a malignant type. This is of infinitely more importance to him than treatment, from the fact that the co-existence of the local and atmospherical causes produces its malignant type. The atmospheric cause can be removed to some extent by the use of disinfectants; but the local causes may be removed almost entirely with proper sanitary measures. Yet if the disease becomes established, it should be treated in a rational manner, not forgetting that nature, when properly aided, will do much towards a cure.

As soon as it is discovered that the disease has made its appearance among your fowls, give the following composition:

1 ℔ Chlorate Potassium (pure);
½ ℔ Capsicum;
½ ℔ Alum;
¼ ℔ May-Apple Root (powdered);
1 ℔ Bi-carbonate of Iron.

This should be well powdered and mixed, and to each dozen fowls one full teaspoonful, mixed in a pint of well cooked corn mush, three times per day. This should be followed up as long as you see any signs of cholera on your place.

The chlorate of potash will remove all inflammation; the capsicum acts as a stimulant; alum acts as an astringent and alterative; May-apple acts upon the liver, and moves off all offensive matter from the intestines; the iron enriches the blood and gives it tone.

With the above treatment, and proper sanitary precautions, you will be able to save all your fowls.

# A. C. MOORE & SON.

We are raising over 500 Pigs for this season's trade. Progeny of Hogs that have TAKEN MORE AND LARGER SWEEPSTAKES AND PORK-PACKERS' PREMIUMS, THAN CAN BE SHOWN BY ANY OTHER MAN ON ANY BREED. Stock all healthy and doing well.

Having made a specialty of this breed for thirty-two years, those desiring the thorough-bred

## POLAND-CHINA

should send to headquarters. Our breeders will be registered in the *American Poland-China Record.* Pedigree sent with each sale. Photographs of twenty-five breeders free. *Swine Journal,* 25 cents.

PRICE DOWN TO SUIT THE TIMES.

Address

A. C. MOORE & SON,

*CANTON, ILLINOIS.*

# JAMES RILEY,

*THORNTOWN, INDIANA,*

## Berkshire and Poland-China Swine.

**STOCK FOR SALE.**

CORRESPONDENCE SOLICITED.

## BERKSHIRES.

22 SOWS BRED.

SIR DORCHESTER CARDI, 509, at the head of the herd.
Imported ENGLISH LADY and NONA, finely
bred Sallies, in the herd.

## *A few Substantial Short-Horns,*

Bulls and Heifers, at low prices. BARON LYNDALL
at the head of the herd.

*Families — Illustrious, Delight, Louans, Elizabeth, Etc.*

**W. C. NORTON,**

DURANT, IOWA.

# BREEDERS' DIRECTORY.

H. C. CASTLE, WILMINGTON, ILL., breeder of *Poland-China Hogs*. Good stock always for sale. Prices reasonable.

E. F. JACKSON, breeder and shipper of pure *Essex Swine*. Pigs choicely bred. Prices low and satisfaction guaranteed. SPERRY STATION, IOWA.

RICHARD M. HOE, MORRISANIA, N. Y., importer and breeder of small *Yorkshire Swine*. Stock for sale. Correct pedigrees given. Address for price, GEO. W. HARRIS, Manager "Brightsides," Morrisania, N. Y.

CHESTER WHITE PIGS.—I am breeding and have for sale pure blooded pigs of this fine breed, at my farm, near DONNELLSON STATION (Lee county), IOWA.

JAMES STEVENS.

HEWER BROS., BELVIDERE, ILL., and Seven Hampton, England, importers and breeders of pure *English Berkshires* of the best strain. The finest stock always for sale.

GEORGE KYGER, OXFORD (Butler county), OHIO, breeder of *Poland-China Hogs*. Stock for sale at reasonable prices; shipped to all parts of the country.

H. H. GRIMSHAW, PAOLA, KANSAS, breeder of pure *Essex*, *Berkshire*, and *Poland-China Hogs*. Young stock for sale. Correspondence solicited.

---

EMORY & SAYERS, OSCEOLA, IOWA. Very best *Berkshires* and *Poland-Chinas* for sale *cheap*. Try us.

---

SAMUEL H. WILSON, PLEASANT GROVE (Des Moines county), IOWA, breeder of *Poland-China Swine* of the purest and best strains. Young stock for sale.

---

PHIL. D. MILLER, PANORA, IOWA, breeder and shipper of *Berkshire* and *Poland-China Hogs*, bred from the best stock in existence. I guarantee satisfaction in every sale.

---

G. H. KIMM, breeder of thorough-bred *English Berkshire* and *Poland-China Swine*, ROBIN (Benton county), IOWA.

---

D. M. MORSE, ELDORA, IOWA, breeder of the pure *Berkshire*, of the *Sallie*, *Sweet Seventeen*, and other noted families. Young stock for sale; prices low. Correspondence solicited.

---

J. N. STOAKS, TRAER (Tama county), IOWA, breeder of thorough-bred *Berkshire Swine*. My stock has been selected with care, from the herds of S. A. Knapp and Eli Elliott.

---

E. H. SEYMOUR, DANVILLE (Des Moines county), IOWA, breeder of *Berkshire* and *Poland-China Swine*. Stock for sale. Correspondence solicited.

---

CHARLES ROBINSON, DE WITT (Clinton county), IOWA, breeds thorough-bred *Berkshires*. Sires, *Crown Prince II* and *Bob Lee*. Twenty sows. Accurate descriptions furnished.

E. WAIT & SON, La Grange (Walworth county), Wis., breeders of pure *Poland-China Swine.* Our stock is descended from the herds of B. F. Fowler, of Wisconsin, and D. M. Magie, of Ohio.

J. GILMORE, Bonny View Farm (one-half a mile south of Vinton, Iowa). Breeding of superior *Poland-China Hogs* and light *Brahma Chickens* a specialty. I will show my breeding herd against any in the state.

PHILO HAYNES & SON, Iowa City, Iowa, breeders of *Chester White Swine*, from the purest blood in the country. Young stock for sale. Residence, one-half mile north of the city.

H. S. VAN BUREN, Brandon (Buchanan county), Iowa, breeder of pure *Essex* and *Berkshire Swine.* Pigs for sale at reasonable rates. Correspondence solicited.

VALENTINE HICKS, Lee Center (Lee county), Ill., breeder of pure blooded *Poland-China Hogs.* Pigs for sale. Correspondence solicited.

CAMPBELL & POWLES, Mt. Union (Henry county), Iowa, breeders and shippers of *Poland-China Hogs.* Choice breeding stock for sale. Orders promptly filled by freight or express. Satisfaction guaranteed.

D. W. MILLER & CO., South English, Iowa, breeders of choice, pure bred *Berkshire* and *Poland-China Hogs*, of the most improved type. Pigs for sale within the reach of the farmer. Letters of inquiry promptly answered.

W. H. KRAMER, De Soto (Dallas county), Iowa, breeder of pure *Poland-China Swine.* Choice stock for sale at all times, and at reasonable rates.

E. H. & S. NICHOLS, MILLERSBURGH (Mercer county), ILL., breeders of thorough-bred *Poland-China* and *Berkshire Swine*. Our stock is selected from the best in the country. We also breed *Merino Sheep*. Young stock for sale.

---

R. STEVENS, MARTELLE (Jones county), IOWA, breeder of thorough-bred *Short-Horn Cattle*, *Berkshire Swine*, and fine *Horses*.

---

A. A. WENTZ, VINTON, IOWA, breeder of *Short-Horn Cattle*, *Poland-China* and *Jersey Red Swine*. Correspondence solicited.

---

PLINY NICHOLS, WEST LIBERTY, IOWA, breeder of *Short-Horn Cattle* and *Poland-China Hogs*. Animals of both sexes, desirable for foundation of herds, and plainer bred ones, all at reasonable rates. A few young bulls, nicely bred by Peri, Duke of Oneida, 20,582, on hand.

---

A. J. ROGERS, SUBLETTE (Lee county), ILL., breeder of thorough-bred *Short-Horn Cattle* and *Berkshire Swine*. Stock for sale at low prices. Correspondence solicited.

---

THOMAS T. TURNER, NORMANDY, MO., breeder of Herd Register *Jersey Cattle*, *Trotting Horses*, *Shetland Ponies*, *Shropshire Sheep*, and registered *Berkshires*. Correspondence solicited.

---

A. & G. DAVIDSON, MONTICELLO (Jones county), IOWA, breeders and shippers of *Clydesdale Horses* and *Berkshire Swine*. First-class stock of both sexes constantly on hand.

---

L. RAWSON, OAK CREEK (Milwaukee county), WIS., breeder of thorough-bred *North Devon Cattle* and *South Down Sheep*. Young stock for sale. Correspondence solicited.

JOSEPH MORTON, OXFORD (Butler county), OHIO, breeder and shipper of *Poland-China Hogs*. "Young Perfection" at the head of the herd. He was shown, in the fall of 1877, at the following fairs, and was successful both in his class and sweepstakes: Paris, Ky., Indiana State Fair, and Butler county, Ohio.

W. E. MCQUILLIN, SUNNYSIDE. NORTH HADLEY, MASS., importer and breeder of *Berkshire Pigs*, *Ayrshire Cattle*, *Oxford Down Sheep*, and *English Game Fowls*.

SAMUEL DYSART, FRANKLIN GROVE (Lee county), ILL., owner and conductor of the "Pines Stock Farm." Choice, pure-bred *Short-Horn Cattle*, improved *Berkshire Swine*, bred and for sale at prices within the reach of the farmer.

WILLIAM HASTIE, SUMMERSET (Warren county), IOWA, breeder of *Short-Horn Cattle*, *Leicester* and *Cotswold Sheep*. Good stock of each variety.

FITCH B. STACY, STACYVILLE (Mitchell county), IOWA, breeder of *Short-Horns*, *Cotswold Sheep*, *Berkshire Swine*, and *Partridge Cochin Poultry*. Stock for sale. Correspondence solicited.

EDWARD FRIES, SHERRILL'S MOUND STOCK FARM (Sherrill's Mound P. O.), IOWA, breeder of *Essex*, *Suffolk*, *Berkshire*, and *Poland-China Swine*, *Cotswold* and *Leicester Sheep*, *Cashmere Goats*, *Shepherd* and *Newfoundland Dogs*.

MAIN VALLEY HERD.—*Short-Horn Cattle* and *Poland-China Swine*. Address CHANDLER JORDON, WAUBEEK (Linn county), IOWA.

JACOB STARRY, OLIN (Jones county), IOWA, breeder of choice *Devon Cattle*, *Leicester Sheep*, and *Poland-China Hogs*, of the most improved type. Stock for sale.

WILLIAM M. RUGGLES, WALNUT GROVE FARM (five miles north of Mechanicsville), IOWA, breeder of *Short-Horn Cattle*, *Poland-China Swine*, and *Cotswold Sheep*, all of pure breeding. Young stock for sale at reasonable prices.

---

JOHN MITCHELL, "Poplar Hill Farm," FAIRFAX, IOWA, breeder and importer of *Leicester Sheep* and *Berkshire* and *Poland-China Swine*. Stock always on hand and for sale.

---

J. P. McCULLY, WINFIELD (Henry county), IOWA, breeder of pure *Short-Horn Cattle* and *Poland-China Hogs*.

---

B. M. ROBINS, OSCEOLA, IOWA, breeder of *Short-Horn Cattle* and *Poland-China Swine*. Choice stock for sale at all times. Address, for particulars, as above.

---

D. W. McCROSKEY, "Blue Grass Stock Farm," TIPTON (Cedar county), IOWA, breeder of *Short-Horn Cattle*, *Berkshire Swine*, and *Cotswold Sheep*. Correspondence solicited.

---

W. R. WILLS, PITTSFIELD (Pike county), ILL., breeder of *Short-Horn Cattle* and *Cotswold Sheep*. Stock for sale at reasonable rates. Correspondence solicited.

---

W. H. LEAVITT, CEDAR VALLEY (Blackhawk county), IOWA, breeder of pure *Poland-China Swine* and *Short-Horn Cattle*.

---

S. R. PRICE, breeder of *Short-Horn Cattle* and *Poland-China Swine*, BELLE PLAINE, IOWA. Stock sold and shipped. Satisfaction guaranteed.

---

J. B. GILBERT, LEWISVILLE, IND., breeder of pure *Poland-China Hogs*. Stock for sale at reasonable rates. Correspondence solicited.

SAMUEL L. DRAGOO, EDINBURG, IND., breeder of pure *Poland-China Hogs*. Stock for sale. Correspondence solicited.

---

LLOYD MUGG, CENTER, IND., breeder and shipper of pure *Poland-China Hogs*. Stock for sale at reasonable rates and satisfaction guaranteed.

---

G. W. HOMAN, PORTLAND MILLS, IND., breeder of choice *Poland-China Swine*. Young stock for sale at reasonable rates.

---

F. M. PITZER, KOKOMO, IND., breeder of thorough-bred *Poland-China Swine*. Stock for sale in pairs not akin. "Perfection" is at the head of herd.

---

J. H. HAYNES, DELPHI, IND., breeder of pure *Berkshire Swine* and *Swiss Cattle;* also *Toulouse*, *Bremen*, *Black African*, *White China*, *Hong Kong*, and *Sebastapol Geese*.

---

J. W. SHELL, THORNTOWN, IND., breeder of thorough-bred *Berkshire Swine*. Stock for sale. Satisfaction guaranteed. Correspondence solicited.

---

W. A. MACY, LEWISVILLE (Henry county), IND., breeder of pure *Poland-China Swine* of the best strain, and *Devon Cattle*. Stock for sale at reasonable rates.

---

TURNER & FOSHER, FINCASTLE (Putnam county), IND., breeder of *Poland-China* and *Chester White Hogs*. Stock for sale. Correspondence solicited.

---

R. F. PHILLIPS, FRANKLIN (Johnson county), IND., breeder of pure *Berkshire Swine*. Stock for sale and guaranteed as represented. Correspondence solicited.

---

W. H. WILSON, NEW SALEM, IND., breeder of the improved *Berkshires* (better known as the *Lee family*). First premium on aged sow at Indiana State Fair, 1876.

H. C. WILLETT, GREENFIELD (Hancock county), IND., breeder and shipper of *Poland-China Hogs;* color, dark spotted, and all from premium hogs. Satisfaction guaranteed.

H. W. TOMKINS, FENTON (St. Louis county), MO., breeder of *Chester White* and *Berkshire Swine.* Young stock constantly on hand for sale. Correspondence solicited.

B. H. CROMWELL, WEST PORT, MO., breeder of pure *Berkshire Swine* and *White Leghorn Chickens.* None but first-class stock shipped. Correspondence solicited. Box 184.

ED. F. RANKIN, HOMER (Atchison county), MO., breeder of pure *Berkshire Pigs*, and *Mammoth Bronze Turkeys* of large size and fine style. Stock for sale.

C. F. WHITTIER, NORTHFIELD, MINN., breeder of pure blood *Suffolk Swine.* Pigs for sale. Price low. Correspondence solicited.

GORHAM MCPHETERS, RICHFIELD, MINN., breeder of pure bred *Essex Swine.* Stock for sale. Correspondence solicited.

M. T. GRATTEN, PRESTON (Fillmore county), MINN., breeder of *Berkshires.* Imported "*Bismark 2d*" at the head of herd. Certified pedigree sent with every pig. Write for catalogue.

E. R. MOODY, EMINENCE, KY., breeder of pure blooded *Chester White Pigs*, *Pekin Ducks*, and imported *Light Brahma Chicks.* Standard varieties.

C. M. STEVENSON, ELDERSVILLE, PA., breeder of choice *Chester White Pigs.* Have bred them for seventeen years. Young stock for sale.

ALBERT CRANE, DURHAM PARK (Morrison county), KAN., breeder of *Berkshire Swine*. The best and largest herd in the west. Catalogue free.

T. J. ANDERSON, MONROE, WIS., breeder of *Poland-China* and small *Yorkshire Swine*. Choice, for sale in pairs not akin. Price low. Correspondence solicited.

G. W. BYERS, SYCAMORE (Wyandotte county), OHIO, breeder of *Berkshire* and *Poland-China Swine*. Berkshires from Midnight, Lord Humphrey, and Sallie families.

A. JOHNSON, CLIFTON (Greene county), OHIO, breeder of pure *Poland-China Hogs* and mammoth *Bronze Turkeys*. Stock for sale. Satisfaction guaranteed.

T. C. ROBISON, PIQUA, OHIO, breeder and shipper of *Poland-China Hogs*. Pedigree the best. Young stock for sale. Correspondence solicited.

R. SWISHER, WOODSTOCK, OHIO, breeder of thoroughbred *Berkshires*, bred only from premium stock. Stock for sale. Correspondence solicited.

J. C. CHAMBERLAIN, TROY, OHIO, breeder of pure *Poland-China Hogs;* none other bred. This breed a specialty. Young stock for sale.

D. W. TODD, "Ohio Herd," URBANA, OHIO, breeder of pure *Berkshires*. Breeding stock for sale at reasonable rates, and pedigrees furnished.

ADAM GERLAUGH, ALPHA (Green county), OHIO, breeder of *Berkshire Swine* and *Leicester Sheep*. Stock for sale. Correspondence solicited.

HIRE & JOHNSON, JEFFERSONVILLE, OHIO, breeders of pure *Poland-China Swine*. Stock for sale at reasonable rates. Correspondence solicited.

J. DOUTHETT, XENIA, OHIO, breeder of thorough-bred *Poland-China Pigs*. Also, light and dark *Brahma Chickens*. Stock and eggs for sale.

---

TODD, CLIFFORD & CO., VERMILLION, OHIO, breeders of purest and best pedigreed and registered *Berkshires*. Prize winners at Northern Ohio State and Tri-State Fairs.

H. J. STARR, CARY, OHIO, breeder of *Poland-China Swine*, *American Merino Sheep*, and *Trotting Horses*.

---

WILLIAM H. GREER, OXFORD, OHIO, breeder of *Poland-China Hogs*. Stock for sale, and shipped to all points by express or freight.

---

S. H. TODD, WAKEMAN, OHIO, breeder of pure *Chester White Swine*. My herd won fifteen first and four sweepstake premiums at the Ohio and Indiana State Fairs for 1873. Pigs for sale.

---

D. F. VICKERY, CHARLOTTE, MICHIGAN, breeder of thorough-bred *Berkshire* and *Suffolk Swine*. All correspondence promptly answered. Residence, Benton, Eaton county.

---

P. T. GILL, GENOA (Livingston county), MICHIGAN, breeder of thorough-bred *Essex Swine*. Stock for sale at reasonable rates. Correspondence solicited.

PRAIRIE FARM HERD BERKSHIRES.—My herd is second to none in the West in point of breeding and imported animals. *Sallie*, *Bella Donna*, *Robin Hood*, and other noted families represented. Stock for sale. Address, J. W. COX, NORTHFIELD (Des Moines county), IOWA.

---

BERKSHIRES of the best strain. Stock for sale. Satisfaction guaranteed. Write for information and price. Address, T. L. MILLER, BEECHER, ILL.

HERMAN HELLMUTH, BURLINGTON, IOWA, breeder of pure *Poland-China* and *Essex Swine*, and *Trotting Horses*. Stock for sale on reasonable terms.

G. W. BLACKWELL, CEDAR RAPIDS, IOWA, breeder of pure *Poland-China Swine*, of Butler county, Ohio, strain, and light *Brahma Fowls*. Stock for sale.

JOSEPH T. INGMAN, VILLISCA, IOWA, breeder of pure *Berkshires* and *Poland-Chinas*. "*Gloster Hero*" at head of herd; sired by "Lord Liverpool."

S. S. HORTON, WEST LIBERTY, IOWA, breeder of pure *Poland-China Swine*. Young stock for sale. Correspondence solicited.

C. S. PADEN, GRINNELL, IOWA, breeder of thorough-bred *Berkshire Swine*. Young stock for sale at reasonable rates. Correspondence solicited.

IOWA STOCK FARM, BUTLER CENTER, IOWA. Pure *Berkshire Swine* bred and for sale. Correspondence solicited. I. M. FISHER, Superintendent.

JOSIAH NICOL, COLUMBUS JUNCTION, IOWA, breeder and shipper of *Poland-China Hogs*. Choice breeding stock for sale. Satisfaction guaranteed.

JAMES I. DAVIDSON, BALSAM P. O., ONTARIO, CANADA, breeder of *Clydesdale Horses* and *Short-Horn Cattle*. My last importation was nineteen heifers and one bull, from Littyton, Scotland.

M. H. COHRAN, HILLSHURST COMPTON, QUEBEC, CANADA, breeder of *Short-Horn Cattle* and *Shetland Ponies*. A herd of *Ayrshire Cattle* for sale. Catalogue sent on application.

R. G. ARMSTRONG, MARKHAM, ONTARIO, CANADA, breeder of *Short-Horn Cattle* and *Cotswold Sheep*. Young stock for sale. Correspondence solicited.

R. & J. HUNTER, Alma P. O., Ontario, Canada, breeder and importer of *Short-Horn Cattle* and *Clydesdale Horses*. Stock for sale. Correspondence solicited.

JOHN & JAMES HOPE, Markham, Ontario, Canada, importers and breeders of *Short-Horn Cattle*, *Cotswold Sheep*, *Clydesdale Horses*, and *Berkshire Hogs*. Correspondence solicited.

W. MAJOR & SON, Mt. Pleasant Farm, White Vale, Ontario, Canada, breeders and importers of *Short-Horn Cattle*, *Clydesdale Horses*, *Cotswold Sheep*, and *Berkshire Pigs*.

JOHN DRYDEN, Brooklyn, Ontario, Canada, importer and breeder of *Short-Horn Cattle*, and long-wooled *Sheep*.

BIRRELL & JOHNSTON, Greenwood, Ontario, Canada, breeders of *Short-Horn Cattle*, *Heavy Draft Horses*, and *Cotswold Sheep*. Young stock for sale.

DAVID CHRISTIE, near Paris, Ontario, Canada, breeder of *Short-Horn Cattle* of the most fashionable families. Send for catalogue.

JOHN MILLER, Brougham, Ontario, Canada, importer and breeder of *Short-Horn Cattle*, *Berkshire Pigs*, and *Cotswold Sheep*.

J. G. A. & G. M. COULTER, Reesville (Clinton county), Ohio, breeders of pure *Short-Horns* (some of pure Booth blood). Imported "Royal Rosedale" (18,271) at the head of herd.

C. HILLS, "Crystal Springs Farm," Delaware, Ohio, breeder of thorough-bred *Short-Horn Cattle*. *Rose of Sharons*, and deep milkers, specialties.

J. C. STEVENS, Kenton (Hardin county), Ohio, breeder of *Short-Horn Cattle* and *Poland-China Pigs*. Stock for sale. Come and see me, or write.

THOMAS C. JONES, DELAWARE, OHIO, *Short-Horn Cattle, Berkshire Pigs*, and *Southdown Sheep*.

JOHN MONTGOMERY, GRANVILLE (Licking county), OHIO, breeder of *Short-Horn Cattle*. 13th and 18th Dukes of Granville at the head of herd. Stock for sale.

G. J. HAGERTY, HANOVER (Licking county), OHIO, breeder of *Short-Horn Cattle, Southdown Sheep*, and *Berkshire Hogs*. Catalogue on application. All ages for sale.

LESTER BLISS & SON, DELPHOS (Allen county), OHIO, breeder of *Short-Horn Cattle, Poland-China Hogs*, and *Cotswold Sheep*. Stock for sale. Correspondence solicited.

JOHN S. STEEL, ANDERSON (Ross county), OHIO, breeder of *Short-Horn Cattle* and *Berkshire Swine*. Stock for sale. Correspondence solicited.

R. GEORGE DUN, "Plumwood Herd," LONDON, OHIO, breeder of *Short-Horn Cattle*. Good stock for sale. Send for catalogue.

SILAS C. SMITH, "Highland Home," ASHTABULA, OHIO, breeder of thorough-bred *Short-Horn Cattle*. Correspondence solicited. Cows, heifers, and bulls for sale.

ANDERSON DE WITT, WASHINGTON C. H., OHIO, breeder of *Short-Horn Cattle, Southdown Sheep*, and *Berkshire Hogs*. Stock for sale.

F. C. HERRINGTON, GENEVA (Kane county), ILL., breeder of *Jersey Cattle* and *Trotting Horses*. All inquiries promptly answered.

A. GARRITSON & BRO., PENDLETON (Madison county), IND., breeder of herd registered *Jersey Cattle* and *Poland-China Swine*. Young stock for sale.

G. F. MILLER, "Cedar Mound Stock Farm," CEDAR RAPIDS, IOWA, importer and breeder of herd registered *Jersey Cattle* and *Berkshire Swine*. Stock for sale.

JAMES SMITH, "Lyndale Farm," MINNEAPOLIS, MINN., breeder of herd registered *Jersey Cattle*, *Lincoln Sheep*, and *Berkshire Swine*. Correspondence solicited.

C. R. C. DYE, "Walnut Grove Farm," TROY, OHIO, breeder of registered *Jersey Cattle*, *Trotting* and *Clydesdale Horses*, *Poland-China* and *Berkshire Swine*.

V. BARBER, DECATUR (Macon county), ILL., breeder of *Jersey Cattle* and *Berkshire Swine*. Stock for sale. Send for catalogue.

GEO. L. WRENN, HIGHLAND PARK (Lake county), ILL., twenty-two miles north of CHICAGO, breeder of choice registered *Jersey Cattle*. Stock for sale. City office, 80 Washington street.

SAMUEL STRATTON, LITCHFIELD, ILL., importer and breeder of *Jersey Cattle;* also breeder of *Cotswold Sheep* and *Chester White Pigs*.

J. C. & D. PENNINGTON, PATERSON, N. J., breeders of herd registered *Jersey Cattle;* also *Black Hamburg* and *Light Brahma Fowls*. Eggs, $3 and $5 for thirteen.

C. S. DOLE, CRYSTAL LAKE, ILL., breeder of *Jersey Cattle* and *Southdown Sheep*. Breeding stock for sale.

GEO. E. WARRING, JR., "Ogdon Farm," NEWPORT, R. I., breeder of pure blood *Jersey Cattle*. Stock for sale. Catalogue furnished on application.

Z. C. LUSE & SON, IOWA CITY, IOWA, breeder of pure *Jersey Cattle*, from imported stock. Cows, young bulls, and heifer calves for sale, either single or in herds.

W. C. KISER, MADISON, WIS., breeder of *Short-Horn Cattle*, *Cotswold Sheep*, and *Poland-China Hogs*. Stock for sale at reasonable rates. Correspondence solicited.

OGILVIE & CURTIS, MADISON, WIS., breeders of *Short-Horn Cattle*, *Clydesdale Horses*, and *Cotswold Sheep*. First-class stock for sale. Correspondence solicited.

GEORGE HARDING, "Anoka Farm," WAUKESHA, WIS., breeder of *Sort-Horn Cattle*, *Cotswold Sheep*, and *Berkshire Pigs*. Stock for sale. Correspondence solicited.

CHARLES H. WILLIAMS, "Elmwood," BARABOO, WIS., breeder of pure bred *Short-Horn Cattle*.

FOX RIVER STOCK ASSOCIATION, ELGIN, ILL. The majority of the *Holsteins* in the West are of our importations. We select our stock personally, in Holland. It cannot be excelled in quality.

D. D. TRACY, ERIE, PA., breeder of pure-bred registered *Holsteins*. Cows, heifers, young bulls, and calves for sale at reasonable rates.

DEXTER SEVERY, LELAND, ILL., breeder of thoroughbred *Holsteins* of the most approved families. Thorough-breds and high grades for sale. Correspondence solicited.

H. MERRIAM, "Cherry Brook Farm," WESTON, MASS. *Ayrshire* and *Guernsey Cattle;* small *Yorkshire* and *Berkshire Swine* from imported stock; *Bronze Turkeys*. Prices low.

W. F. CLARK, "Lindenbank," GUELPH, ONTARIO, CAN., breeder of *Ayrshire Cattle*, *Berkshire Pigs*, and *Bremen Geese*.

W. T. SMITH, ELKHORN, WIS., breeder of *North Devon Cattle*, *Cotswold Sheep*, and *Berkshire Swine*, of the purest breeding. Stock for sale at reasonable rates.

L. F. ROSS, AVON, ILL., breeder of *Devon Cattle*, *French Draft Horses*, and *Poland-China Hogs*. Young stock for sale.

---

JESSE MEAD, BOWLUSVILLE, OHIO, breeder of *Devon Cattle* and *Southdown Sheep*. Young stock for sale at reasonable rates. My famous bull, "Grant," for sale.

JOHN A. COLE, HUSTISFORD (Dodge county), WIS., breeder and shipper of pure-bred *Magic* or *Poland-China Swine* of the most fashionable and profitable strain. Stock for sale. Prices low.

---

WM. M. GENTRY, SEDALIA, MO., breeder of *Short-Horn Cattle*, *Southdown* and *Merino Sheep*, and *Berkshire Swine*. Choice stock for sale. Correspondence solicited.

J. F. FINLEY, BRECKENRIDGE, MO., breeder of thoroughbred *Short-Horn Cattle* and *Berkshire Swine*. Young stock for sale at reasonable rates.

---

S. C. DUNCAN, SMITHVILLE (Clay county), MO., breeder of *Short-Horn Cattle*. First-class stock for sale. Send for catalogue.

WILL. R. KING, "Prairie Home," MARSHALL (Saline county), MO., breeder of pure *Short-Horn Cattle*. Stock for sale at reasonable rates.

J. S. LATIMER, ABINGDON (Knox county), ILL., breeder of *Short-Horn Cattle* and *Poland-China Hogs*. Stock for sale. Correspondence solicited.

S. CHAPMAN & SON, ONTARIO (Knox county), ILL., breeders of *Holstein Cattle*. Young stock for sale. Satisfaction guaranteed. Correspondence solicited.

---

J. BRANARD & SON, ONTARIO (Knox county), ILL., breeders of *Short-Horn Cattle* and *Poland-China Swine*. Young stock for sale. All letters of inquiry promptly answered.

# ILLINOIS BREEDERS' DIRECTORY.

## Cattle—Short-Horns.

| NAMES. | POST-OFFICE. |
|---|---|
| Aldrich, V., | Tiskilwa, Bureau County. |
| Beaty, J. H., | Nokomis, Montgomery " |
| Boggs, A. C., | Princeton, Bureau " |
| Belden, F. W., | Kaneville, Kane " |
| Bond, John, | Abingdon, Knox " |
| Byram, Mrs. E., | Abingdon, Knox " |
| Black, William, | Carrollton, Greene " |
| Burruss, Geo. L. & Son, | Carrollton, Greene " |
| Brown, S. S., | Galena, Jo Daviess " |
| Brown, J. N.'s Sons, | Berlin, Sangamon " |
| Campbell, J. L., | Abingdon, Knox " |
| Crane, A. A., | Osco, Henry " |
| Clark, J. G., | Champaign, Champaign " |
| Chrisman, H., | St. Augustine, Knox " |
| Carson, Andrew, | Amboy, Lee " |
| Cummings, Wm., | Buda, Bureau " |
| Crowder, Thos. H., | Marrowbone, Moultrie " |
| Center, J. H., | Ottawa, LaSalle " |
| Crippen, S. L., | Camp Point, Adams " |
| Deyes, Samuel, | Sciota, McDonough " |
| Dunlap, Stephen, | Jacksonville, Morgan " |
| Elliott, George, | Harristown, Macon " |
| Funk, A. C., | Bloomington, McLean " |
| Green, C. H., | Ottawa, LaSalle " |
| Gillham, J. C., | Lincoln, Logan " |
| Gillham, D. B., | Alton, Madison " |
| Halloway, Robert, | Alexis, Warren " |
| Higgins, B. B., | Dixon, Lee " |
| Houston, Rigdon, | Blandinsville, McDonough " |
| Houlton, J. & J. F., | Jackson Corners, Warren " |
| Hawkins, Enoch, | Hermon, Knox " |
| Houston & Lyon, | Pontiac, Livingston " |
| Hills, Samuel, | Lamoille, Bureau " |
| Iles, Edward, | Springfield, Sangamon " |

| NAMES. | POST-OFFICE. | |
|---|---|---|
| Jones, Nelson, | Towanda, McLean | County. |
| Kepple, J. & D., | Randolph, McLean | " |
| Lahman, J. C., | Franklin Grove, Lee | " |
| Lewis, E. C., | Deer Park, LaSalle | " |
| Latmer, J. S., | Abingdon, Knox | " |
| Lippincott, C. E., | Chandlerville, Cass | " |
| Lowman, David, | Toulon, Stark | " |
| Lowns, J. & Son, | Table Grove, Fulton | " |
| Moffatt, W. & R., | Paw Paw Grove, Lee | " |
| Mix, James, | Kankakee, Kankakee | " |
| McKey, W. J., | Mendota, LaSalle | " |
| Noel, Wm., | Paxton, Ford | " |
| Niccolls, C. M., | Leroy, McLean | " |
| Nelson, H. C., | Canton, Fulton | " |
| Olmstead, H. D. & Son, | Freedom, LaSalle | " |
| Otley, George, | Neponset, Bureau | " |
| Otley, Robert, | Kewanee, Henry | " |
| Owens, J. R., | Sagetown, Henderson | " |
| Pickrell, J. H., | Harristown, Macon | " |
| Pickrell, W. & W., | Mechanicsburg, Sangamon | " |
| Prather, S. E. & G. F., | Springfield, Sangamon | " |
| Potts, J. H. & Son, | Jacksonville, Morgan | " |
| Patterson, J. A., | Rock Falls, Whitesides | " |
| Porter, J. D., | Alexis, Warren | " |
| Powers, A., | Sterling, Whitesides | " |
| Ramsey, J. C., | Onarga, Iroquois | " |
| Ryburn, J. B. & Bro., | Bloomington, McLean | " |
| Reynolds, W. W., | Shipman, Macoupin | " |
| Scott, W., | Wyoming, Stark | " |
| Strawn, J. G., | Jacksonville, Morgan | " |
| Suddeth, J., | Windsor, Shelby | " |
| Shelly, J. R., | Shannon, Carroll | " |
| Stewart, William, | Franklin Grove, Lee | " |
| Smith, Wm. M., | Lexington, McLean | " |
| Strawn, Abner, | Ottawa, LaSalle | " |
| Taylor, T. M., | Decatur, Macon | " |
| Tunison, H. & J. D., | Whitehall, Greene | " |
| Vaught, G., | Baileyville, Ogle | " |
| Voorhies, W., | Milmine, Piatt | " |
| Wise, A. H., | Freeport, Stephenson | " |
| Wendell, Thos. & Sons, | Lincoln, Logan | " |

## Devons.

| | | |
|---|---|---|
| Barnes, J. B., | Ottawa, LaSalle | County. |
| Flagg, W. C., | Moro, Madison | " |
| Lock, John, | Philo, Champaign | " |
| May, D. C., | Rochelle, Ogle | " |
| Merrill, D., | Prairie Home, Shelby | " |
| Thompson, James, | Philo, Champaign | " |

## Holsteins.

| NAMES. | POST-OFFICE. | |
|---|---|---|
| Bradley, Daniel, | Champaign, Champaign | County. |
| Brown, Geo. E., | Elgin, Kane | " |
| Russell, Wm. A., | Dixon, Lee | " |
| Severy, Dexter, | Leland, LaSalle | " |
| Weber, Geo. P., | Pawnee, Sangamon | " |

## Herefords.

| | | |
|---|---|---|
| Miller, T. L., | Beecher, Will | County. |
| Powell, Wm., | Beecher, Will | " |

## Ayrshires.

| | | |
|---|---|---|
| Greenleaf, L. L., | Evanston, Cook | County. |
| Jones, D. & G., | Galesburg, Knox | " |
| Jenne, D. C. & D. J., | Prophetstown, Whitesides | " |
| Lake, J. C., | Decatur, Macon | " |
| Patterson, J. A., | Rock Falls, Whitesides | " |

## Jerseys or Alderneys.

| | | |
|---|---|---|
| Dole, C. S., | Crystal Lake, McHenry | County. |
| Lyman, T., | Downer's Grove, DuPage | " |
| Mills, C. F., | Springfield, Sangamon | " |
| Parks, C. C. & R. H., | Waukegan, Lake | " |
| Pierson, J. M., | Godfrey, Madison | " |
| Smith, Enos, | Malden, Bureau | " |

## Horses—French Draft.

| | | |
|---|---|---|
| Carter & Cain, | Earlville, LaSalle | County. |
| Campbell, B. H., | Batavia, Kane | " |
| Degen, I. & J. & Co., | Ottawa, LaSalle | " |
| Dillon, E. & Co., | Normal, McLean | " |
| Dolese & Shepherd, | Summit, Cook | " |
| Dunham, M. W., | Wayne, DuPage | " |
| Earlville Imp'n Co., | Earlville, LaSalle | " |
| Gandy, H. H. & Co., | DeKalb, DeKalb | " |
| Hodgson & Sons, | Ottawa, LaSalle | " |
| Hodgson, L. C., | Ottawa, LaSalle | " |
| McCourtie, I., | Onarga, Iroquois | " |
| Olmstead, H. D. & Son, | Freedom, LaSalle | " |
| Owen, J. L., | Mokena, Will | " |
| Perry, J. A., | Wilmington, Will | " |
| Shelton, G., | Normal, McLean | " |
| Sterrett, Thomas A., | Warrensburg, Macon | " |
| Stubblefield, R. W. & T. T., | Bloomington, McLean | " |
| Stubblefield, G. W., | Shirley, McLean | " |
| Virgin & Brown, | Fairbury, Livingston | " |

## English Draft.

| NAMES. | POST-OFFICE. | |
|---|---|---|
| Blodgett, A. Z., | Waukegan, Lake | County. |
| Brown, Geo. E., | Elgin, Kane | " |
| Duncan, T. G., | McLean, McLean | " |
| Field, H. F. & Co., | Deer Creek, Tazewell | " |
| Fullenwider, J. N., | Mechanicsburg, Sangamon | " |
| Iles, Edward, | Springfield, Sangamon | " |
| Jacobs, J. W., Supt. Imp. Association, | Palo, Kendall | " |
| McDiarmid, D., | Gray Willow, Kane | " |
| Moffatt, W. & R., | Paw Paw Grove, Lee | " |
| Stubblefield, R. W. & T. T., | Bloomington, McLean | " |

## Thoroughbred Trotters, Etc.

| | | |
|---|---|---|
| Armstrong, A., | Benson, Logan | County. |
| Adams, D., | Wenona, Marshall | " |
| Beaty, David, | Jerseyville, Jersey | " |
| Bruner, J. C., | Ottawa, LaSalle | " |
| Buckley, Wiley, | Champaign, Champaign | " |
| Carle, A. G., | Urbana, Champaign | " |
| Hardin, B. L., | Keithsburg, Mercer | " |
| Hitchcock, W., | Princeton, Bureau | " |
| Helf, H. T., | Lake Forest, Lake | " |
| Heath, O. A., | Waukegan, Lake | " |
| Jones, S. A., | Springfield, Sangamon | " |
| Jacobs, J. W., | Plano, Kendall | " |
| Kirby, N. T., | Jerseyville, Jersey | " |
| Landrigan, John, | Albion, Edwards | " |
| Lewis, E. C., | Deer Park, LaSalle | " |
| Mead, R., | Paw Paw, Lee | " |
| Neely, W. J., | Ottawa, LaSalle | " |
| Rowett, R. & J., | Carlinville, Macoupin | " |
| Rust, F. M., | Heyworth, McLean | " |
| Stoner, G. W., | LaPlace, Piatt | " |
| Stevens, E., | Bloomington, McLean | " |
| Thompson, C. P., | New Rutland, LaSalle | " |
| Voorhies, W., | Milmine, Piatt | " |
| Watts, A. B., | Farmingdale, Sangamon | " |
| Wing, L. B., | Bement, Piatt | " |
| Woods, J., | Ottawa, LaSalle | " |

## Swine — Berkshire.

| | | |
|---|---|---|
| Anderson, F. M., | Lexington, McLean | County. |
| Belden, F. W., | Kaneville, Kane | " |
| Bond, John, | Abingdon, Knox | " |
| Bradley, D., | Champaign, Champaign | " |
| Bodine, J. P., | West Jersey, Stark | " |
| Boston, James | Jacksonville, Morgan | " |
| Chrisman, E. M., | Merritt, Scott | " |
| Crowder, T. B., | Marrowbone, Moultrie | " |
| Clark, J. G., | Champaign, Champaign | " |
| Caldwell, G. M., | Williamsville, Sangamon | " |

| NAMES. | POST-OFFICE. |
|---|---|
| Connelly, Dr. J. L., | Harristown, Macon County. |
| Dorsey, B. F. & Sons, | Perry, Pike " |
| Dunlap, G. N. & Son, | Bloomington, McLean " |
| Deyes, Samuel, | Sciota, McDonough " |
| Elliott, Geo., | Harristown, Macon " |
| Funk, A. C., | Bloomington, McLean " |
| Francis, John, | New Lenox, Will " |
| Gillham, D. B., | Alton, Madison " |
| Gore, D. & Son, | Carlinville, Macoupin " |
| Hewer Bros., | Gray Willow, Kane " |
| Higgins, B. B., | Dixon, Lee " |
| Highmore, John S., | Rochester, Sangamon " |
| Hunter, Geo., | Carlinville, Macoupin " |
| Iles, Edward, | Springfield, Sangamon " |
| Jones, N. N., | Normal, McLean " |
| Kepple, J. & D., | Bardolph, McDonough " |
| Lahman, J. C., | Franklin Grove, Lee " |
| Lippincott, C. E., | Chandlerville, Cass " |
| Moffatt, W. & R., | Paw Paw Grove, Lee " |
| Mason, I. W., | Burnside, Hancock " |
| Maxham, H. N., | Diamond Lake, Lake " |
| McCoy, M. D., | Rochester, Sangamon " |
| Mills, Chas. F., | Springfield, Sangamon " |
| Noel, Wm., | Paxton, Ford " |
| Niccolls, C. M., | LeRoy, McLean " |
| Parks, C. C., | Waukegan, Lake " |
| Peiffer, J. M., | Rochelle, Ogle " |
| Pickrell, J. H., | Harristown, Macon " |
| Pickrell, W. & W., | Mechanicsburg, Sangamon " |
| Prather, S. E. & J. F., | Springfield, Sangamon " |
| Potts, J. H. & Son, | Jacksonville, Morgan " |
| Powers, A., | Sterling, Whitesides " |
| Roach, J. E., | Lincoln, Logan " |
| Ryburn, J. B. & Bros., | Bloomington, McLean " |
| Scott, J. R., | Champaign, Champaign " |
| Snoad, Charles, | Joliet, Will " |
| Springer, F. K., | Springfield, Sangamon " |
| Sudduth, James, | Windsor, Shelby " |
| Shelly, J. R., | Shannon, Carroll " |
| Stewart, Wm., | Franklin Grove, Lee " |
| Smith, Samuel, | Rushville, Schuyler " |
| Smith, William, | Lexington, McLean " |
| Stephenson, J. W., | Bruceville, LaSalle " |
| Stookey, M. J., | Belleville, St. Clair " |
| Tunison, H. & J. D., | Whitehall, Greene " |
| Tewill, E., | Clayton, Adams " |
| Thompson, S. M. & J. F., | Canton, Fulton " |
| True, George A., | Utica, LaSalle " |
| Voorhies, W., | Milmine, Piatt " |
| Wise, A. H., | Freeport, Stephenson " |

## Poland-China.

| NAMES. | POST-OFFICE. |
|---|---|
| Brooks, R. G., | Brimfield, Peoria County. |
| Carey & Otto, | Canton, Fulton " |
| Corzett, S. E., | Canton, Fulton " |
| Campbell, J. L., | Abingdon, Knox " |
| Clark, J. G., | Champaign, Champaign " |
| Carson, Andrew, | Amboy, Lee " |
| Cushman, J. S. & H. R., | Abingdon, Knox " |
| Emery, D. F. & Sons, | Canton, Fulton " |
| Hunt, M. W., | Mokena, Will " |
| Houlton, J. & J. P., | Jacksonville, Morgan " |
| Hodgson, L. C., | Ottawa, LaSalle " |
| Higgins, B. B., | Dixon, Lee " |
| Johnson, A. M., | Gerlaw, Warren " |
| Lahman, J. C., | Franklin Grove, Lee " |
| Lawrence, D., | Prairie Center, LaSalle " |
| Mason, J. W., | Burnside, Hancock " |
| Orton, B. J., | Cambridge, Henry " |
| Owen, J. L., | Mokena, Will " |
| Penfield, Josiah, | Tremont, Tazewell " |
| Russell, W. H., | Sandoval, Marion " |
| Raley, E. V., | Granville, Putnam " |
| Stoll, Henry C., | Frankfort, Franklin " |
| Tunison, H. & J. D., | Whitehall, Greene " |
| Vaught, G., | Baileyville, Ogle " |

## Chester Whites.

| | |
|---|---|
| Francis, John, | New Lenox, Will County. |
| Kercheval, Chas. E., | Joliet, Will " |
| Kimberly, R., | Green River, Henry " |
| Lawrence, D., | Prairie Center, LaSalle " |
| Olmstead, H. D. & Son, | Freedom, LaSalle " |
| Searles, F., | Hadley, Lawrence " |

## Essex.

| | |
|---|---|
| Longshore, J. G., | Wilmington, Will County. |
| Neely, W. J., | Ottawa, LaSalle " |
| Overholt, J. S. R., | Streator, LaSalle " |
| Schooley, J. P., | Ottawa, LaSalle " |

## Sheep — Cotswold.

| | |
|---|---|
| Aldrich, V., | Tiskilwa, Bureau County. |
| Allen, R. C., | Harristown, Macon " |
| Bishop, James, | Randolph, McLean " |
| Carson, Andrew, | Amboy, Lee " |
| Elliott, George, | Harristown, Macon " |

| NAMES. | POST-OFFICE. | |
|---|---|---|
| Gillham, J. C., | Lincoln, Logan | County. |
| Moffatt, W. & R., | Paw Paw Grove, Lee | " |
| Parks, C. C., | Waukegan, Lake | " |
| Ryburn, J. B. & Bros., | Bloomington, McLean | " |
| Stewart, William, | Franklin Grove, Lee | " |
| Sudduth, James, | Windsor, Shelby | " |
| Wendell, Thos. & Sons, | Lincoln, Logan | " |

## Leicestershires.

| | | |
|---|---|---|
| Arnold, A., | Somonauk, DeKalb | County. |
| Belden, F. W., | Kaneville, Kane | " |
| Lawrence, J., | Prairie Center, LaSalle | " |
| Mitchell, Wm., | LaSalle, LaSalle | " |
| Newman, J. S., | West Jersey, Stark | " |
| Stewart, Wm., | Franklin Grove, Lee | " |
| Stewart, M. L., | Camp Point, Adams | " |

## Merinos.

| | | |
|---|---|---|
| Bell, J. & Son, | Brighton, Macoupin | County. |
| Dawson, B., | Dawson, Sangamon | " |
| Day, F. E., | Streator, LaSalle | " |
| Fassett, Frank, | Springfield, Sangamon | " |
| Kelly & Son, | Wheaton, DuPage | " |
| Lee, Graham, | Hamlet, Mercer | " |
| Peck, George E., | Geneva, Kane | " |
| Richmond, V. P., | Moro, Madison | " |
| Rudd, Wm. A., | Pontiac, Livingston | " |
| Taylor, Thomas, | Waynesville, DeWitt | " |

## Southdowns.

| | | |
|---|---|---|
| Allen, George, | Rockford, Winnebago | County. |
| Cobb, Emory, | Kankakee, Kankakee | " |
| Caton, J. D., | Ottawa, LaSalle | " |
| Elliott, George, | Harristown, Macon | " |
| Greenwood, W., | Joliet, Will | " |
| Lawrence, D., | Prairie Center, LaSalle | " |
| Meeks, Gilman, | Kaneville, Kane | " |
| Pickrell, J. H., | Harristown, Macon | " |
| Pickrell, W. & W., | Mechanicsburg, Sangamon | " |
| Wise, A. H., | Freeport, Stephenson | " |
| Watts, Joseph, | Ottawa, LaSalle | " |

# ARTICHOKES.

## Red Brazilian and White French Varieties.

## CHEAPEST HOG FOOD KNOWN.

SEND FOR CIRCULAR.

E. F. ROCKWAY,

AINSWORTH, IOWA.

LIBRARY OF CONGRESS
0 002 843 010 3